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THE FUTURE OF HEALTH CARE IN AMERICA

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BEFORE THE

SUBCOMMITTEE ON EDUCATION AND HEALTH

OF THE

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CONGRESS OF THE UNITED STATES

ONE HUNDREDTH CONGRESS

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THE FUTURE OF HEALTH CARE IN AMERICA

TUESDAY, MAY 3, 1988

Congress of the United States,
Subcommittee on Education and Health
of the Joint Economic Committee,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m., in room 2325, Rayburn House Office Building, Hon. James H. Scheuer (chairman of the subcommitee) presiding.

Present: Representative Scheuer.

Also present: David Podoff and Dayna Hutchings, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE SCHEUER, CHAIRMAN

Representative **Scheuer**. Today we begin what should be a very interesting and indeed seminal series of hearings on "The Future of Health Care in America."

The subject is so vast that I will insert my detailed written opening statement in the record, and just make a few brief oral comments now.

We will be thinking about the quality of care. We will be thinking about the costs of care. We will be thinking about special constituent groups in our society like the elderly, like infants, like the poor who seem to have trouble accessing our health care system. We will be talking about special problems like the overwhelming costs of medical malpractice and the impacts they have on the system. How do we control quality? How do we empower health care consumers with knowledge about their health care system as it impacts them? How do we give them the knowledge to select between health care providers, some who would enhance their health—doctors, hospitals, nursing homes—and some who might, indeed, on the proven clear written record, jeopardize their health.

All of these subjects will be treated today and in the weeks to come, but now I really feel that we want to get on with the witnesses.

I want to especially thank this morning our staff member from the Joint Economic Committee, David Podoff, for his wonderful work in helping to prepare this set of hearings, and also the redoubtable Professor Dorothy Rice, who has made such a formidable contribution to our health care system in years past in government and currently in the private sector. Dorothy, we are very grateful to you for your splendid, continuing contribution and your caring so much about giving the American people some of the knowledge and some of the insights that we hope will flow from this hearing.

Now we will get to our opening witness, former Secretary of the Department of Health, Education, and Welfare—now known as the Department of Health and Human Services. Joe Califano has truly had a seminal effect on our health care system. He was chief domestic adviser to President Lyndon Johnson when we constructed the medicare and medicaid systems and was one of the chief architects of those two systems. Not only was he a spectacularly effective Secretary of HEW, but he has continued his interest in health care working with the Chrysler Corp. by chairing their committee on health care and trying to bring some degree of rationality into our health care system so far as it concerned major health care corporate insurers, and the millions of members of the American work force who have corporate health care programs.

[The written opening statement of Representative Scheuer follows:]

WRITTEN OPENING STATEMENT OF REPRESENTATIVE SCHEUER

Today we begin a series of hearings on **THE FUTURE OF HEALTH CARE IN AMERICA**. In the next two months this subcommittee will explore a broad range of issues that confront our health care system.

Health care is our third largest industry. Health care costs continue to increase more rapidly than the economy so that the share of GNP that is devoted to health care expenditures is increasing. Today, health care expenditures absorb 11 percent of GNP--a far higher percentage than in most other industrialized countries. By the year 2000 expenditures on health care are projected to reach 15 percent of GNP.

There are many reasons why an increasing share of output is devoted to medical care including demographic trends and the fact that the price of medical services has increased more rapidly than the general price level.

But despite the increase in the share of national resources devoted to health care, there are growing concerns about the quality of medical care we receive when we are sick, and the need for some of the services we receive when we may not be sick. We are also concerned about the health status of our population, particularly our growing aged population, and wonder what we can do to prevent illness.

In his book AMERICA'S HEALTH CARE REVOLUTION Mr. Joseph A. Califano writes, "The time has come to alter fundamentally the way we deliver health care to our people, who has access to it, how we pay for it, the way we educate our doctors and protect their turf, the abandon with which we handle our bodies and minds, and the professional and financial incentives we offer doctors, researchers, hospitals, insurers, laboratories, medical equipment suppliers, drug companies, malpractice lawyers--and patients. Most important, we must change the object of our attention from sick care to health care, encourage Americans to keep themselves in far better shape and to stay out of hospitals unless they have no other alternative, and give doctors incentives to keep us healthy rather than just treat us when we're ill."

Before turning to Secretary Califano's testimony, and that of the other distinguished panelists we have assembled today, I want to summarize the issues I hope to discuss in this series of hearings.

I basically agree with Secretary Califano's statement that we should "change the object of our attention from sick care to health care." To me that implies that we need a positive approach to restraining health care costs now and in the future.

o We need intelligent effective responses to the challenges posed by an aging population and increasing life expectancy.

o We need to assure access to health care for low-income citizens, especially minorities.

o We need to provide consumers with adequate and accurate information about the quality of health care provided by hospitals and health professionals--both good and bad.

o We to need to provide child and maternal care so as to reduce infant mortality and the percent of low birthweight babies.

All of these measures would appropriately shift our focus from "sick care to health care." But our record in moving in this direction is not impressive.

About two years ago I chaired a series of hearings for a subcommittee of the JEC in which we looked at, among other demographic trends, the aging of the population. The fraction of the population over 65 has increased from about 8 percent in 1950 to about 11 percent today, and is expected to dramatically rise from about 13 percent by the year 2000 to 22 percent by 2050. Furthermore, as life expectancy increases and the baby boom generation ages, we will see a tremendous increase in the fraction of the population over 85. Between now and 2050 the fraction of the population over 85 will increase from 1 percent to 5 percent--or from one in a hundred to five in one hundred.

Although the aging of the population is not unexpected, our health care system is not prepared to deal with the consequences. Ultimately we must strive to promote better health so that the aging population will not impose an unsustainable burden on the working population. To reemphasize we must change our health industry from a sick care system to a health care system. Unless the health status of the elderly population improves as life expectancy increases, long-term care costs will increase as a fraction of GNP.

The evidence is not encouraging. In a report to Congress that was mandated by the Social Security Amendments of 1983, the Department of Health and Human Services reviewed the evidence on the health status of the elderly as life expectancy increases.

The study concluded that "The evidence is ambiguous as to recent trends in the health status of older workers. Improvements in life expectancy that have occurred over the past several decades have not necessarily been accompanied by corresponding improvements in the active work lives of older persons."

At the other end of the age spectrum there are also danger signs. In its recently released Report **On The Economic Report of the President**, the JEC found, "that in 1950 the U.S. infant mortality rate ranked well above the average of 23 European and Pacific countries and today ranks somewhat below average"-a sobering assessment. Slow reduction in infant mortality and associated trends in low birthweights ultimately imply large future health care costs.

And access to health care is not what it should be. An estimated 37 million Americans have no health insurance. Many of them will receive health care--often at public expense--only when they are very ill--and they will not receive the kind of preventative care we should be encouraging.

Finally, there are disturbing signs that in a health care--or should I say "sick care" system--that spends $500 billion, the quality is not all that it should be. Newspaper accounts, for example, recently reported on appalling conditions in a hospital in my district. In a letter to David Axelrod, Commissioner of the New York State Department of Health, I expressed the belief that a new management group could provide the "necessary supervision, oversight and accountability" that is clearly required. I also asked to be kept informed of the steps taken to "assure a prompt and significant improvement in the health care" provided at the hospital.

I hope, that as a result of these hearings, we can help promote a prompt and significant improvement in the health care system of the United States, and change its direction from "sick care" to "health care."

Representative SCHEUER. Mr. Califano, take such time as you may need to make your statement and then I'm sure we will have some questions for you. We're delighted to have you with us here today.

STATEMENT OF JOSEPH A. CALIFANO, JR., SENIOR PARTNER, DEWEY, BALLANTINE, BUSHBY, PALMER & WOOD, AND FORMER SECRETARY, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Mr. CALIFANO. Thank you very much, Mr. Chairman. I would like to submit the whole prepared statement for the record.

Representative SCHEUER. It will be printed in its entirety in the hearing record.

Mr. CALIFANO. I will summarize and read some comments. Let me say that it's a privilege to be here and that you have this morning in the panels that follow the most impressive people in the country on health care, health care delivery systems, and health care economics.

It's a privilege to be part of a day in which they testify.

I think these hearings are critical and I think it is very important for the American people to understand more and more about their health care system.

EXPENDITURE TRENDS

The plain fact is that health care is devouring and will continue to devour an ever-increasing share of our national wealth. Americans will spend more than $550 billion on health care this year, nearing 12 percent of our gross national product. By the year 2000, health care will claim 15 percent of our gross national product, a staggering $1.5 trillion.

DEMOGRAPHIC TRENDS

But the year 2000 will signal only the beginning of what will surely become the health care century because our rapidly aging population assures this. Seniors now represent about 12 percent of our population. They account for more than a third of our national expenditures on personal health care. By the year 2030 those 65 and over will equal at least a fifth and perhaps more than a quarter of the population. The percentage of elderly who are 80 and over will be pushing 30 percent.

As the proportion of higher users of medicare grows, those over 80 will use twice the health services of those 64 to 69 and the tax and support base will erode. The ratio of active workers to retired citizens will slip from about six to one today to only three to one in 2030.

COST CONTAINMENT

It's clear that to control health care costs we will have to reduce the rate of disease and disability, especially among the elderly.

So far, Mr. Chairman, government, big business, and unions, the main providers of health care and the main purchasers of health care in this country, have primarily used blunt instruments to hack fat out of the bloated health care system. They have concentrated on creating incentives for doctors and patients to eliminate unnecessary hospital stays and shorten the necessary ones.

But now in this country we face the tough part. Finding out what treatments really work, instilling self-discipline in patients, physicians and political leaders, reducing overcapacity and directing America's scientific genius toward the health care problems that actually cost Americans the most money and the most misery—aging and addiction.

CARE ASSESSMENT

Of the tasks ahead, none is more complex than finding out what procedures truly have an impact on the ailment the patient suffers. In short, determining what quality care really is.

Americans spent almost $1,800 a person on health care in 1985, the last year for which good comparable foreign figures are available, far more than the Canadians who rank second with $1,300, more than twice the Japanese who spent $800, triple the British who spent $600. Yet health care in Canada, Japan, and Britain is sophisticated and modern. Life expectancy is at least as high as in the United States and infant mortality is lower.

We are so dazzled by the miracles of modern medicine we tend to forget that even today, despite the multimillion array of tools at the doctors' disposal, the first step—directly diagnosing the ailment—is no sure bet, and treatments for the same diagnosis vary widely.

In 1987, a pioneering researcher in this field, Dr. John Wennberg, compared surgery and hospitalization rates in New Haven and Boston. He found that, in 1981, a New Haven resident was nearly twice as likely to undergo a coronary bypass operation as a Bostonian, but only half as likely to receive a carotid endarterectomy. Bostonians were much more likely to have their knees and hips replaced, but New Haven residents had far more hysterectomies and back operations. Boston doctors will hospitalize you for gastroenteritis, pneumonia, and diabetes much more readily than their colleagues in New Haven.

These different treatments, applied to populations that were very similar appeared to bear no relation to whether the patient gets well. But they did bear a strong relation to the cost. Mr. Chairman, medicare spent an average of 70 percent more for each beneficiary in Boston than it did in New Haven.

Representative SCHEUER. For comparable health outputs?

Mr. CALIFANO. For comparable health outputs. And that's a heavy price to pay, especially when the Bostonian's chance of being exposed to a more expensive higher risk procedure appears to depend not on his condition but on the prevailing fashion in his medical neighborhood.

Another study, this one by the Rand Corp., analyzing 4.4 million medicare beneficiaries, revealed wide variations in rates for surgery and hospitalization. Consider two patients, one of whom happens to live in the area that had the highest rate for a particular procedure, the other in the area with the lowest rate for that procedure. The first patient was 11 times more likely to have a hip operation, 6 times more likely to have a knee replaced, 3 times more likely to have coronary bypass surgery, 5 times more likely to have a skin biopsy. For more than half of the medical and surgical procedures studied—67 out of 123—people who lived in areas with the highest rate were at least three times as likely to undergo the procedure as people living in areas with the lowest rate.

Then in a later study, another Rand study, medical experts meticulously analyzed the application of three of the procedures, in reviewing the research on its effectiveness and establishing criteria for when it was clearly appropriate, clearly inappropriate, or of uncertain value. After systematically applying these criteria to more than 4,500 case histories, the experts found that 26 percent of the coronary angiographies—a procedure to determine blockage of coronary arteries—28 percent of the endoscopies—a procedure to diagnose stomach and intestinal problems—and 64 percent of carotid endarterectomies—a surgical procedure to remove blockages from the main artery supplying blood to the brain—were clearly inappropriate or of uncertain value. Most startling, researchers found the inappropriate use of these procedures to be similarly high in areas with the highest rates of use and the lowest rates of use.

Just pause for a minute on these numbers. We have an expert medical consensus that from 26 to 64 percent of these three medical procedures were of no value or of uncertain value to the patients. But even when most doctors agree that certain treatments are appropriate, there are still enormous variations, some more than tenfold, in the rates to which people living in different places are subjected to risky, expensive surgical procedures with no apparent relation to health.

Is it possible that in this area of high-tech medicine we just don't know with any precision whether many procedures truly affect the medical outcome? Of course it is.

But there are situations in which we should be able to develop standards of care and apply them, situations in which doctors are clearly too ready to choose surgery.

Just very quickly a few of them. Coronary bypasses. Americans are four times more likely to have bypass operations than Western Europeans with the same symptoms. According to studies by the National Institutes of Health and the Veterans' Administration——

Representative SCHEUER. Again, I assume with comparable health outputs.

Mr. CALIFANO. With comparable health outputs. NIH and the Veterans' Administration studies concluded that at least 60 percent and perhaps 80 percent of the 250,000 Americans who undergo coronary bypass surgery each year gain no increase in life span beyond what they would have achieved through medical management of their conditions. Henry Aaron and Dr. William Schwartz, in their book "The Painful Prescription," attribute much of the explosion in bypass surgery to the fee-for-service payment system.

Cesarean sections. In 1970, 5.5 percent of the deliveries of babies in the United States were cesarean. In 1986, 24 percent were. Medical experts estimate that at least half of the 900,000 C-sections performed in 1986 were unnecessary. The cost of those excess operations came to $728 million—for poor quality medicine. American doctors perform the highest rate of cesarean sections in the world, yet the United States ranks 17th in infant mortality.

Tonsillectomies. Mr. Chairman, if you want to keep your tonsils, stay out of Fairhaven, Fitchburg, and Framingham, MA.

Representative Scheuer. I lost them 55 years ago.

Mr. Califano. Residents of those three cities were found to be as much as 15 times more likely to be subjected to tonsillectomies than residents of other Massachusetts towns where tonsillitis is treated mostly with antibiotics—as effectively, and far more cheaply.

Pacemaker implants. Recent studies suggest that of the 120,000 pacemaker implants performed last year, at a cost of $15 billion, more than half were unnecessary or of questionable value. A Philadelphia study by physicians suggested that doctor's ignorance and the fear of malpractice accusations were the chief culprits here, but the study also noted that this relatively simple operation, with its $12,000 price tag, can be highly profitable for doctors and hospitals.

Now I'm not suggesting that all the varying judgments of doctors on what constitutes appropriate care are unreasonable, reckless, or motivated by economic self-interest. In many cases, one physician may in good conscience perform surgery though another may treat the same condition medically.

NEED CHANGE IN PHYSICIANS' ATTITUDES

I do suggest that a major shift in physician and patient attitudes would improve the quality of care. Today, when a physician is uncertain about the value of a medical procedure, his attitude tends to be: unless it has been proved ineffective, try it. Patients in discomfort tend to agree. In a medical system in which doctors are paid only for doing something, and patients want something done, uncertainty over diagnostics and treatment makes for all kinds of unnecessary tests and treatments.

What about a different attitude? I suggest we adopt this one: Unless the procedure has been proved effective, don't use it. There is ample precedent for this. After all, drug companies routinely spend millions of dollars demonstrating the safety and efficacy of their products to convince the Food and Drug Administration to let them bring new drugs to market. Yet most medical and surgical procedures—which are far more costly and risky—are subjected to far less scrutiny before they are adopted.

It's time for a rigorous effort to establish what procedures produce beneficial outcomes under what conditions, and to eliminate stark instances of "over utilization" like those cited above.

MALPRACTICE

Before we can persuade doctors to adopt standards of quality care, we must slay the medical malpractice monster. Medical professionals should be held accountable for negligence and incompetence, but not for disappointment and grief over events only God can predict or control. States should follow California's lead by limiting recovery for damages to modest payment for pain and suffering, the cost of care, income lost because of missed work, and compensation for lingering disability. Contingent legal fees should be sharply reduced.

The cost of malpractice premiums this year will probably be about $5.5 billion of that $550 billion. That's a small part of the cost we pay for malpractice system because doctors perform so many unnecessary tests to protect themselves.

NEED CHANGE IN PATIENTS' ATTITUDES

We also need to bring about a major change in patients' attitudes. First, patients must recognize their responsibility to take care of themselves. We've lost sight of the only sure way to contain health care costs: keeping people out of the sick care system.

Of the $550 billion Americans spend on health care this year, less than 0.3 of 1 percent will be spent on health promotion and disease prevention. Government, employers, schools, doctors, and other health professionals all have an interest in marketing health promotion with the same sophisticated saturation the ad agencies employ to sell products. The priorities are clear and you've spoken about them often, Mr. Chairman. Quitting smoking, sticking to a proper diet, controlling drinking, taking regular exercise, learning to handle stress, practicing preventive care, and having regular checkups.

Representative **SCHEUER**. Avoiding ingestion of mind-boggling substances affecting the central nervous system.

HOSPITAL OVERCAPACITY

Mr. **CALIFANO**. We also need a sea change in community attitudes to reduce the costly overcapacity in the health care system. With the national average hospital occupancy rate at just over 60 percent, we still have a glut of hospital beds. And within 10 years, as enrollment in HMO's expands and as managed care delivery systems grow and as the physician's office becomes more and more sophisticated, we will need only half the hospital beds we have today.

We should promptly begin to eliminate some 400,000 hospital beds. But closing hospitals is hard labor. Everyone admits we have too many hospital beds in America, they're just always in someone else's town, city, neighborhood, or congressional district.

With the cost of maintaining an empty bed estimated at $20,000 to $30,000 a year, closing just 200,000 beds could save $6 billion. Think of the care we could provide to the 37 million people that aren't covered by health insurance with this $6 billion.

RESEARCH PRIORITIES: AGING AND ADDICTION

We must dramatically reorder our research priorities. In particular, we must direct money for medical research to our two largest problems: aging and addiction.

As people live longer, the length of time during which they need help in the tasks of daily living increases. The astronomical cost of confronting this dependence has sent tremors through Congress and State capitals, and has drained the savings and psyches of far more American families than catastrophic illness.

RESOURCE WASTE

One thing to think about here, which I skipped over in the earlier part of my statement, is the phenomenal waste in the health care system, some of all those examples and hundreds of others. In my judgment, about 25 percent of that $550 billion we spend on health care is wasted, 25 percent of the money the Federal Government spends on health care is wasted. That alone is about $25 billion. Think of how the Congress agonizes every year to reduce the deficit or make cuts of far less than that.

RESEARCH ON AGING: PROJECT INDEPENDENCE

The elderly. Millions of the elderly living at home need help with the basic activities of living. And of America's 1.3 million residents of nursing homes, 91 percent need help bathing; 77 percent need help dressing; 63 percent need help using the toilet; and more than 40 percent need help eating; 63 percent suffer from dementia or some other mental disorientation.

We need a massive effort—a project independence for older Americans—to reduce and, for many of the elderly, eliminate the chief threats to their independence. A project independence research program should focus on at least three areas: incontinence, memory loss, and immobility.

Incontinence among the elderly is, as a New England Journal of Medicine put it, "prevalent, morbid, costly, and neglected." Last year, more than $8 billion was spent to care for 500,000 incontinent elderly people in nursing homes.

Severe dementia afflicts some 1.5 million Americans so seriously that they require constant care; perhaps 5 million others suffer from mild to moderate dementia. Americans spend $40 billion to $50 billion a year to care for elderly dementia victims, yet last year we spent less than $80 million on research on all forms of elderly dementia, including Alzheimers.

Almost 2 million Americans over 65 need help just walking across a room; 90 percent of all women over 75 suffer from osteoporosis, so one fall and you're in permanent trouble. Arthritis afflicts some 15 million elderly Americans at a cost exceeding $3.5 billion last year, yet we invested only $138 million in research on arthritis.

The more independent the elderly are, the less expensive nursing and institutional care they will need. Is there any son or daughter who would rather spend money to keep parents in a nursing home than to spend money to keep them living independently? The payoff of project independence for older Americans could be enormous. Each reduction of 1 month in the average period of dependence means a savings of up to $4 billion in health care and custodial costs.

We must also reorient our research efforts toward addiction, something I know, Mr. Chairman, you're a champion of. The cost of addiction in health care alone easily exceeds $50 billion, and maybe closer to $150 billion. Yet out of a total health research budget of $6 billion, the Government spends less than $200 million to learn about addiction. And alcoholism, despite the widespread disease it causes, is near the bottom of the list in private research support.

Fifty-four million Americans are addicted to cigarettes; 18 million are addicted to or abuse alcohol; half a million are addicted to heroin; at least 10 million abuse barbiturates and other sedative-hypnotic drugs; 60 million Americans have used marijuana; up to 22 million have tried cocaine. No one knows exactly how many of them are dependent in one way or another on those drugs.

If we're serious about reducing the demand for drugs, we must begin by finding out why people become addicted. Yet it has been difficult to get our best scientific minds concentrated on addiction—in part because the problem is so infernally complex, and, in part, because the financing has been erratic. We should establish a national institute on addiction, as part of the National Institutes of Health, which would combine the research work of the National Institute on Drug Abuse and on Alcohol Abuse and Alcoholism. By creating a single institute for all addiction research, Congress would help generate a steady stream of money, make clear our national commitment, and attract more of our best minds to the effort, the way we have with respect to cancer, for example, and heart disease.

NEED POLICYMAKING INDEPENDENT OF PROVIDERS

For these efforts to succeed, to have any hope of restraining costs, the political system has to free itself from domination by the health care providers.

The powerful role of the health care providers is not a new phenomenon. Ever since government became the biggest purchaser of health care they have been a very powerful force. In the last election cycle, health care political action committees gave $8.5 million to Members of Congress, the largest contributors except for financial services, more than the oil industry or the highly touted tobacco lobby or what have you.

MAJOR ISSUES IN HEALTH CARE

Mr. Chairman, picture if you will our health care system as a mountain climbing team struggling to scale an extremely steep cliff en route to a Mount Everest of quality care for all of our citizens.

The lead climber is our spectacular scientific genius and superb doctors and medical centers. Then come those who have lost their footing. One dangling climber is the hospitals with their empty beds. Another is technology, swinging loose on the rope, unbridled by considerations of the relationship of cost to benefit. Next come lawyers and judges, dragging the team down with malpractice litigation. Then the enormous load of patient expectations, crying out: Do something, doctor, right up to the limit of my health insurance—and don't hold me responsible for my own health. Finally comes the political system, in the grip of the providers, needlessly adding to the cost of care.

Our lead climber must negotiate this slippery cliff in a blinding snowstorm of uncertainty about which medical and surgical procedures truly affect medical outcome for patients. In a sense, it's remarkable that our health care system is still scaling the cliff. But it cannot hope to reach the heights of quality care for all unless we get all members of the team to do their share. Bluntly put, what we're talking about and what these hearings are about, Mr. Chairman, is the continued viability of America's top quality medical system. Whether we maintain and enhance that system and make it available to all our citizens is not a decision to be left in the hands of the health care providers. It is a decision for all of us—patients and citizens, employers and unions, civil servants and elected officials.

Mr. Chairman, it's a privilege to be here this morning.

[The prepared statement of Mr. Califano follows:]

PREPARED STATEMENT OF JOSEPH A. CALIFANO, JR.*

BEFORE

THE JOINT ECONOMIC COMMITTEE
OF THE U.S. CONGRESS

MAY 3, 1988

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* Mr. Califano was Secretary of Health, Education and Welfare from 1977 to 1979, and President Lyndon Johnson's assistant for domestic affairs from 1965 to 1969. He is presently senior partner in the Washington office of the law firm of Dewey, Ballantine, Bushby, Palmer & Wood, and chairman of the health care committee of Chrysler Corporation's Board of Directors. His most recent book, America's Health Care Revolution: Who Lives? Who Dies? Who Pays?, was published by Random House in 1986.

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to appear before you today. The focus of this series of hearings, "The Future of Health Care in America," is most appropriate given the convulsive revolution that has marked our health care system in the 1980s. My 20 years of involvement with the American health care system have convinced me that, for the future, promoting health and keeping people out of the sick care system is our best hope for taming health care costs and providing high quality care to all Americans.

The plain fact is that health care is devouring -- and, unless we act, will continue to devour -- an ever-increasing share of our national wealth. Americans will spend more than 550 billion dollars on health care this year, close to 12 percent of our gross national product. By the year 2000, health care will claim 15 percent of GNP, a staggering 1.5 trillion dollars. But the year 2000 will signal only the beginning of what will surely become the Health Care Century. Our rapidly aging population virtually assures this.

Seniors now represent about 12 percent of our population, but they account for more than a third of our national expenditures on personal health care. By the year 2030, those 65 and over will equal at least one-fifth and perhaps more than a quarter of the population. And the percentage of the elderly who are 80 or over will be pushing 30 percent. As the proportion of high users of medical care grows -- those over 80 use twice the hospital services of those 64 to 69 -- the tax and support base will erode. The ratio of active workers to retired citizens will slip from about six-to-one today to about three-to-one in 2030.

The combination of the aging of our population, rising health care costs, and the shrinking proportion of actual workers has the potential to create a financial and political crunch the likes of which our nation has never experienced. A recent report by John Holahan and John Palmer, two distinguished researchers at the Urban Institute, puts these trends in stark relief: if we continue as we have, by the year 2030 the gap between Medicare revenues and expenditures alone will exceed 2 percent of the gross national product.

Still more sobering are the meager potential savings from various schemes for increasing cost-sharing by Medicare beneficiaries: doubling the Part B deductible would save 1 percent; raising the age of eligibility would save 5 percent; taxing a portion of Medicare benefits would save 3 to 5 percent. Even these stringent measures would only scratch the surface of the cost problem while visiting significant and unacceptable hardship on the elderly.

It's clear that to control health care costs we will have to reduce the rate of disease and disability, especially among the elderly. At the same time we must do all we can to determine what medical care is truly effective and deliver that care in the most effective way possible. So far, ır progress toward a more efficient health care system has been a halting, good news bad news journey. Annual health care cost increases have been in the single digits since 1984; hospital admissions have dropped each year since 1982; government and private employers have adopted cost containment measures; and cigarette smoking, cholesterol levels, and heart attacks have been falling.

There is growing competition in the health care industry. The once monolithic fee-for-service and cost-plus delivery systems of doctors and hospitals are now ceding territory to health maintenance organizations, preferred provider organizations and independent practice associations. Physicians who once vied for precious admitting privileges at top hospitals are now being wooed by prestigious medical centers striving to fill empty beds.

Yet, the more turmoil and change there is, the more one thing remains the same: health care costs keep skyrocketing. During 1986 and 1987, the price of American health care shot up at more than twice the rate of inflation. The rise in physicians' fees and services was so steep last year that Medicare had to increase the premiums people pay for physician care by nearly 40 percent. Health insurance premiums are up an average of 20 percent this year, with some increases a dizzying 70 percent.

At the Chrysler Corporation, where I am chairman of the health care committee of the board of directors, present cost and utilization trends could put our annual health care bill over the one billion dollar mark within five years.

The evidence is growing that at least a quarter of this money -- more than 125 billion dollars -- will be wasted; 25 billion dollars of that comes from the taxpayer. At a time when Congress is agonizing over budget cuts of less than that amount, when 37 million Americans are going without even basic health insurance and when American companies are struggling to cut costs to meet foreign competition, such waste is unconscionable.

So far, government, big business, and unions -- the main providers of health care -- have primarily used blunt instruments to hack fat out of the bloated health care system. They have concentrated on creating incentives for doctors and patients to eliminate unnecessary hospital stays and shorten necessary ones, and they've had some success.

But now comes the tough part: finding out what treatments really work; instilling self-discipline in patients, physicians and political leaders; reducing over-capacity; and directing America's scientific genius toward the health care problems that actually cost Americans the most money -- and the most misery.

As we confront these tasks, each of us should keep in mind two persistent characteristics of the American health care system: when we tinker with any part of this supplier-controlled behemoth, we affect all parts of it; and medical services follow reimbursement dollars the way an alley cat follows the scent of fish in the garbage.

Of the tasks ahead, none is more complex than finding out what procedures truly have an impact on the ailment the patient suffers -- in short, determining what quality care really is. Americans spent almost $1,800 a person on health care in 1985 -- far more than the Canadians, who ranked second ($1,300), more than twice the Japanese ($800), and triple the British ($600). Yet health care in Canada, Japan and Britain is sophisticated and modern, life expectancy is at least as high as in the United States and infant mortality is lower.

We are so dazzled by the miracles of modern medicine we tend to forget that even today, despite the multimillion-dollar array of tools at the doctor's disposal, the first step -- correctly diagnosing the ailment -- is no sure bet. And treatments for the same diagnosis vary widely.

In 1987, the pioneering researcher in this field, Dr. John Wennberg, compared surgery and hospitalization rates in New Haven and Boston. He found that, in 1982, a New Haven resident was nearly twice as likely to undergo a coronary bypass operation as a Bostonian, but only half as likely to receive a carotid endarterectomy. Bostonians were much more likely to have their knees and hips replaced, but New Haven residents had far more hysterectomies and back operations. Boston doctors will hospitalize you for gastroenteritis, pneumonia and diabetes much more readily than their colleagues in New Haven.

These different treatments, applied to populations that are essentially very similar, appeared to bear no relation to whether the patient gets well. But they did bear a strong relation to the cost: Medicare spent an average of 70 percent more for each beneficiary in Boston than it did in New Haven. That's a heavy price to pay -- especially when the Bostonian's chance of being exposed to a more expensive, higher risk procedure appears to depend not on his condition, but on the prevailing fashion in his medical neighborhood.

Another study, this one by the Rand Corporation, analyzing 4.4 million Medicare beneficiaries, revealed wide variations in rates for surgery and hospitalization. Consider two patients, one of whom happens to live in the area that had the highest rate for a particular procedure, the other in the area with the lowest rate. The first patient was eleven times more likely to have a hip operation, six times more likely to have a knee replaced, three times more likely to have coronary bypass surgery, five times more likely to have a skin biopsy. For more than half of the medical and surgical procedures studied (67 out of 123), people who lived in areas with the highest rate were at least three times as likely to undergo the procedure as people living in areas with the lowest rate.

In a subsequent Rand study, medical experts meticulously analyzed the application of three of the procedures, first reviewing the research on its effectiveness and establishing criteria for when it was clearly appropriate, clearly inappropriate, or of uncertain value. After systematically applying these criteria to 4,564 case histories, the experts found that 26 percent of coronary angiographies (a procedure to determine blockage of coronary arteries), 28 percent of endoscopies (a procedure to diagnose stomach and intestinal problems), and 64 percent of carotid endarterectomies (a surgical procedure to remove blockages from the main artery supplying blood to the brain) were clearly inappropriate or of uncertain value. Most startling, researchers found the inappropriate use of these procedures to be similarly high in areas with the highest and lowest rates of use.

So we have an expert medical consensus that from 26 to 64 percent of these three medical procedures were of no value or of uncertain value to the patients. But even when most doctors agree that certain treatments are appropriate, there are still enormous variations -- some more than tenfold -- in the rates at which people living in different places are subjected to risky, expensive surgical procedures with no apparent relation to their health.

What accounts for these stunning variations in treatment? Probably not differences in medical training: there are fewer than 130 medical schools in the United

States, and their curriculums have been pretty much standardized for 50 years. And the incidence of common ailments does not appear to fluctuate significantly from region to region.

Is it possible that in this area of high-tech medicine we just don't know with any precision whether many procedures truly affect the medical outcome? Certainly it is.

But there are situations in which we should be able to develop standards of care and apply them, situations in which doctors clearly are too ready to choose surgery.

Coronary bypasses. Americans are four times more likely to have bypass operations than Western Europeans with the same symptoms. According to the studies by the National Institutes of Health and the Veterans Administration, at least 60 percent, and perhaps 80 percent, of the 250,000 Americans who undergo coronary bypass surgery each year gain no increase in life span beyond what they would have achieved through medical management of their conditions. Henry J. Aaron and Dr. William B. Schwartz, in their book "The Painful Prescription," attribute much of the rapid growth in the use of bypass surgery to the fee-for-service payment system (coronary bypasses cost about 25,000 dollars each).

Caesarean sections. In 1970, 5.5 percent of the deliveries of babies in the United States were Caesarean; in 1986, 24 percent were. Medical experts estimate that at least half of the 900,000 C-sections performed in 1986 were unnecessary. The cost of those excess operations came to 728 million dollars -- for poor quality medicine. American doctors perform the highest rate of Caesarean sections in the world, yet the United States ranks 17th in infant mortality.

Tonsillectomies. If you want to keep your tonsils, stay out of Fairhaven, Fitchburg and Framingham, Massachusetts. Residents of these cities were found to be much as fifteen times more likely to be subjected to tonsillectomies than residents of other Bay State towns, where tonsillitis is treated mainly with antibiotics -- as effectively, and more cheaply.

Pacemaker implants. Recent studies suggest that of the 120,000 pacemaker implants performed annually -- at a cost of 1.5 billion dollars -- more than half are unnecessary or of questionable value. A Philadelphia study suggested that doctors' ignorance and the fear of malpractice accusations were the chief culprits; but the study also noted that this relatively simple operation, with its 12,000 dollar price tag, can be highly profitable for doctors and hospitals.

I'm not suggesting that all the varying judgments of doctors on what constitutes appropriate care are unreasonable, reckless, or motivated by economic self-interest. In many cases, one physician may in good conscience perform surgery though another may treat the same condition medically.

I do suggest that a major shift in physician and patient attitudes would improve the quality of care. Right now, when a physician is uncertain about the value of a medical procedure, his attitude tends to be: unless it has been proved ineffective, try it. Patients in discomfort tend to agree. In a medical system in which doctors are paid only for doing something, and patients want something done, uncertainty over diagnostics and treatment makes for all kinds of unnecessary tests and treatments.

I suggest we adopt a different attitude: unless the procedure has been proved effective, don't use it. There is ample precedent for this. After all, drug companies routinely spend millions of dollars demonstrating the safety and effectiveness of their products, in order to convince the Food and Drug Administration to let them bring new drugs to market. Yet most medical and surgical procedures -- which are far more costly and risky -- are subjected to far less scrutiny before they are adopted.

It's time for a rigorous effort to establish what procedures produce beneficial outcomes under what conditions -- and to eliminate stark instances of "over utilization" like those cited above. Physicians and hospital administrators should put establishing quality standards at the top of their agendas.

If the professionals procrastinate, government and other big buyers of health care will act. Surging costs will spur these purchasers to insist that they will pay only for procedures that can be shown to affect the medical outcome. And, costs aside, subjecting patients to high risk surgical procedures that have little or no likelihood of affecting their health raises profound ethical questions.

Defining quality health care will not be easy. We are trying to determine the best way to treat a patient, to judge the competence of doctors, nurses and lab technicians, and to qualify some intangibles. But computers make it easier to measure outcomes of medical procedures by analyzing rates of relapse, readmission, surgical rupture, infection; length of hospital stays, length of recovery time, time away from work, death rates and other data.

The Joint Commission on Accreditation of Health Care Organizations is in the midst of developing specific performance indicators for hospitals. On the state level, the Pennsylvania legislature has created a Health Care Cost Containment Council to collect and publish data, gathered from every Pennsylvania physician and hospital, on what surgical and medical procedures are performed for what diagnoses, and on rates of infection, hospital readmission and mortality. The United States Department of Health and Human Services has begun to publish the death rates of various hospitals and to test quality standards for hospital intensive care units.

At the Chrysler Corporation, we are trying to set quality and cost effective standards for our disability programs. A searching examination of our disability system revealed that 5 percent of the claims generated 40 percent of the costs; that employees holding the same job took widely varying leaves for the same ailments or injuries; and that, for certain procedures -- appendectomies, cataract surgery, tonsillectomies and breast biopsies -- hourly employees spent twice as many days on disability leave as expected, and many more than salaried employees.

Drawing on the expertise of 47 physicians, Chrysler established treatment options, which vary according to the employee's physical condition, job, age and sex, and then created guidelines for appropriate length of disability leave.

During its first six months, Chrysler's program saved more than 3 million dollars, and 52,000 days of work. Physicians appreciate having standards that help them judge the appropriate length of disability and resist patient pressure for more time off. Employees appreciate that objective standards are now applied fairly to everyone -- and they undergo fewer questionable medical procedures.

Before we can persuade doctors to adopt standards of quality care, we must slay the medical-malpractice monster. Medical professionals should be held accountable for negligence and incompetence, but not for disappointment and grief over events no one can predict or control. States should follow California's lead by limiting recovery for damages to modest payment for pain and suffering, the cost of care, income lost because of missed work, and compensation for lingering disability. Contingent legal fees should be sharply reduced.

Physicians and hospitals should do their part by screening out doctors who provide substandard care. In 23 states the peer-review organizations of physicians set up by Congress to assure quality care have not imposed a single major sanction.

We must pursue quality care without imposing "cookie-cutter medicine" and stifling the creativity that has made American medicine the envy of the world. But in areas in which standards can be established, they can serve as a safe haven for doctors, protecting them from unjustified malpractice claims.

We also need to bring about a major change in patients' attitudes. First, patients must recognize their responsibility to take care of themselves. We've lost sight of the only sure way to contain health care costs: keeping people out of the sick care system.

Of the 550 billion dollars Americans spend on health care, less than 0.3 percent is spent on health promotion and disease prevention. Government, employers, schools, doctors and other health professionals all have an interest in marketing health promotion with the same sophisticated saturation the ad agencies employ to sell product. The priorities are clear: quitting smoking, sticking to a proper diet, controlling drinking, taking regular exercise, learning to handle stress, practicing preventive care and having regular check-ups.

Patients have come to judge physicians by how much doctors do to them -- how spectacular their diagnostic and treatment procedures are, how high-tech their offices and hospitals are. We must re-educate patients, promoting a cultural shift in patient attitudes. One way to begin is to pay doctors to talk to their patients and to persuade patients that fees for that service are often better spent than those paying only for doctors to "do something" to them.

This shift in attitude must be achieved in the face of convictions that "nothing's too good or expensive for my sick baby" -- or spouse, or parent. It must be achieved among a generation of Americans who pop tranquilizers not to relieve unusual stress but to subject themselves to even more, who rely on pills rather than self-discipline to avoid obesity, to relax, to sleep.

We also need a sea change in community attitudes to reduce the costly over-capacity in the health care system. With the national average hospital occupancy rate at just over 60 percent, we have a glut of hospital beds. And within ten years, as enrollment in health maintenance organizations and other managed care delivery systems grows, we will need only half the beds we have today.

We should promptly begin to eliminate some 400,000 hospital beds. But closing hospitals is hard labor. Everyone admits we have too many hospital beds in America -- they're just all in someone else's town, city or neighborhood.

With the cost of maintaining an empty bed estimated at 20 to 30 thousand dollars a year, closing just 200,000 beds could save up to 6 billion dollars. There would be other savings as well: low occupancy rates are often compensated for with higher charges. A 1986 survey of Miami hospitals, where occupancy rates have been just over 50 percent, found that the markup for ancillary charges -- lab tests, medications, supplies -- was 30 percent higher than the national average.

The desirability of cutting the number of hospital beds and consolidation facilities is not limited to cost savings. A patient is seven times more likely to die during a coronary by-pass operation in a hospital that performs only 100 such operations than in a hospital that performs 350.

We must dramatically reorder our research priorities. In particular, we must direct money for medical research to our two largest problems: aging and addiction.

As people live longer, the length of time during which they need help in the tasks of daily living increases. The astronomical cost of confronting this dependence has sent tremors through Congress and state capitols, and has drained the savings and psyches of far more American families than catastrophic illness.

Millions of the elderly living at home need help with the basic activities of living. And of America's 1.3 million residents of nursing homes, 91 percent need help bathing; 77 percent need help dressing; 63 percent need help using the toilet; and more than 40 percent need help eating. Sixty-three percent suffer from dementia, mental disorientation, loss of memory.

We need a massive effort -- a Project Independence for Older Americans -- to reduce and, for many of the elderly, eliminate the chief threats to their independence. A Project Independence research program should focus on at least three areas: incontinence, memory loss and immobility.

Incontinence among the elderly is, as a New England Journal of Medicine article puts it, "prevalent, morbid, costly and neglected." Last year, more than 8 billion dollars was spent to care for 500,000 incontinent elderly people in nursing homes. Yet even among the neglected area of research for the elderly, incontinence has been especially shunned.

Severe dementia afflicts some 1.5 million Americans so seriously that they require constant care; perhaps 5 million others suffer from mild to moderate dementia. Americans spend 40 billion dollars to 50 billion dollars a year to care for elderly dementia victims, yet last year we spent less than 80 million dollars on research on all forms of elderly dementia.

Almost 2 million Americans over 65 need help just walking across a room. Ninety percent of all women over 75 suffer from osteoporosis. Arthritis afflicts some 15 million elderly Americans, at a cost exceeding 3.5 billion dollars last year; yet we invested only 138 million dollars in research on arthritis.

The more independent the elderly are, the less expensive nursing and institutional care they require. Independence is what the elderly want most. Is there any son or daughter who would rather spend money to keep parents in a nursing home than to keep them living independently? The payoff of Project Independence for Older Americans could be enormous. Each reduction of one month in the average period of dependence means a savings of up to 4 billion dollars in health care and custodial costs.

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Fifty-four million Americans are addicted to cigarettes; 18 million are addicted to or abuse alcohol; half a million, heroin; at least 10 million abuse barbiturates and other sedative-hypnotic drugs. Sixty million Americans have used marijuana; up to 22 million have tried cocaine -- no one knows exactly how many of them are dependent, in one way or another, on those drugs.

If we're serious about reducing the demand for drugs, we must begin by finding out why people become addicted. Yet it has been difficult to get our best scientific minds concentrated on addiction -- in part because the problem is so infernally complex, and, in part, because the financing has been erratic. The United States should establish a national institute on addiction, as part of the National Institutes of Health, which would combine the research work of the National Institute on Drug Abuse and on Alcohol Abuse and Alcoholism. This institute would conduct research on all substance abuse, including smoking. By creating a single institute for all addiction research, Congress would help generate a steady stream of money, make clear our national commitment, and attract more of our best minds to the effort.

For these efforts to succeed, to have any hope of restraining costs, the political system has to free itself from domination by health care providers.

The powerful role of the health care providers is not a new phenomenon. This has been true ever since the government became the biggest purchaser of health care. In 1964, when Lyndon Johnson proposed Medicare and Medicaid, the Congress, under pressure from the providers, exacted cost-plus reimbursement for hospitals and usual, customary and prevailing fee-for-service payments for doctors -- over the Administration's objection and as the price of passage.

Likewise, the pending Medicare catastrophic legislation, with few incentives to choose less expensive alternatives to hospital care and even fewer utilization and cost controls, could spark a new surge of spending on high-ticket, high-tech medicine that will set us back five years in our cost containment efforts. It will surely cost far more than is now estimated, perhaps twice as much.

Surely we should make certain that our citizens are protected from financial ruin and burden of catastrophic illness. But efficiently.

Picture our health care system as a mountain climbing team struggling to scale an extremely steep cliff en route to a Mount Everest of quality care for all.

The lead climber is our spectacular scientific genius and superb doctors and medical centers. But then come those who have lost their footing. One dangling climber is the hospitals, with their empty beds. Another is technology, swinging loose on the rope, unbridled by considerations of the relationship of cost to benefit. Next come lawyers and judges, dragging the team down with malpractice litigation.

Then the enormous load of patient expectations, crying out: Do something, Doctor, up to the limit of my health insurance -- and don't hold me responsible for my own health. Finally comes the political system, in the grip of the providers, needlessly adding to the cost of care.

Our lead climber must negotiate this slippery cliff in a blinding snowstorm of uncertainty about which medical and surgical procedures truly affect medical outcome for patients. In a sense, it's remarkable that our health care system is still scaling the cliff. But it cannot hope to reach the heights of quality care for all unless we get all members of the team to do their share. Bluntly put, we are talking about the continued viability of America's top quality medical system.

Whether we maintain and enhance that system -- and make it available to all our citizens -- is not a decision to be left in the hands of the health care providers. It is a decision for all of us -- patients and citizens, employers and unions, civil servants and elected officials.

Representative **Scheuer**. Well, it was a privilege to have you here taking us to the mountaintop, along with those strugglers. The scope of your testimony is almost breathtaking and we could spend a week here discussing the enormously interesting and challenging public policy questions that you raised.

So it's very frustrating to me to have to maintain some kind of control over myself and our time, but I'll ask you just a few questions here.

INSTITUTIONAL CHANGES

You talked about the one-third of 1 percent of Federal health care expenditures that we spend for education, health enhancement, disease control, and the like.

What institutional or systemic changes would you advocate in our health care system or our education system for that matter, to have a quantum jump in the effort that we make to teach people how to avoid the sickness care system and how to enhance their own health?

Mr. **Califano**. Well, one, I would certainly make health promotion and disease prevention a significant educational component at all levels of education—elementary school, high school, even college. You can make it more sophisticated year by year as people learn more just the way we make math and English more sophisticated.

That costs money. We tried to get money when I was Secretary of HEW and interestingly enough, the tobacco industry, for example, would not oppose any amount of money for research on lung cancer or on heart disease, but vigorously opposed any efforts to put money in the budget to test and develop education programs in the smoking area in the elementary schools and high school children.

Representative **Scheuer**. While they spend $2 billion a year educating young people to smoke.

Mr. **Califano**. That's right.

Second, I think physical education courses have to be much more sophisticated. They're sort of a gut everywhere—let's really teach people about their bodies as part of the educational process.

I think wherever there are large concentrations of employees, there ought to be major health promotion programs, exercise programs, smoking cessation programs. I think employers should have sophisticated employee assistance programs that deal with alcohol and drug abuse and stress problems of their employees. And I think probably we in the private sector have to put in some penalties. For example, increasingly now life insurance for smokers cost more than for nonsmokers. There's no reason why health insurance shouldn't cost more for smokers than nonsmokers or heavy drinkers. I think there ought to be some disincentives for people to pursue unhealthy lifestyles.

Representative **Scheuer**. How do you overcome the specter of the police state?

Mr. **Califano**. Do a lot of it in the private sector, Mr. Chairman. It's in the interest of business to do this.

Representative **Scheuer**. How do insurance companies determine whether a person is a heavy smoker?

Mr. **Califano**. Well, in most insurance policies you answer those questions. If you answer dishonestly, you don't get your insurance when you die. They now have life insurance policies which are much lower for nonsmokers and if that person turns out to be a smoker they won't pay the insurance.

Representative **Scheuer**. There is a built-in deterrent against lying and saying that you're a nonsmoker?

Mr. **Califano**. They've obviously plotted those odds and people want that insurance to go to their spouse or their children.

CONTROLLING OVERUSE OF SERVICES

Representative **Scheuer**. On the whole question that you've documented so interestingly of overuse of the system, overlong stays in hospitals, unnecessary operations which not only produce unnecessary costs but produce unnecessary risks to the individual with little promise of improving their health afterwards, you didn't say very much about how we control overuse. What's the answer?

Mr. **Califano**. Well, I think we have to look at the whole system, something Prof. Karen Davis taught me which I'm sure she will talk about, when we were trying to control medicare costs—that you have to look at not just what goes on in the hospital but what goes on outside the hospital. The health care system is like a pillow. You push down one part of it and another part goes up.

A current example is cataract surgery. In medicare, cataract surgery in a hospital was capped under the DRG system. Cataract surgery performed by a hospital on an outpatient basis wasn't capped. So Congress discovered a year or so ago that cataract surgery on an outpatient basis was more expensive than cataract surgery performed in a hospital. Therefore, it had to literally legislate a cap or a reduction in costs.

I think that in terms of the length of hospital stays and in terms of whether people belong in a hospital, we've made a lot of progress in the last few years. I think where we haven't and where we're at now is to deal, one, with the cost of outpatient care. To deal with that you have to deal with a lot of things—including malpractice, the fear of which does encourage doctors to perform unnecessary procedures and tests. Part of the cesarean explosion I'm sure is due to fear of a malpractice suit 5 years later about an imperfect child.

I think we have to recognize that if you look at Chrysler's experience, as Chrysler gets a better and better handle on its hospital costs, its outpatient costs have begun to rise. The same thing is happening in medicare.

Some kind of either competition or control that's more effective than what we have now has to be put in place to deal with that.

And I think the physicians themselves really it is in their interest to develop standards for these high-tech procedures and follow them because I think they will provide a safe haven for them on malpractice. And I think we have to look at the extent to which the payment system encourages doctors to perform unnecessary procedures. We know that patients in a health maintenance organization are less likely to be subjected to surgery than patients who go to fee-for-service doctors and fee-for-service surgeons.

And we also have to recognize that the system still defies—I'm not an economist; you have a bunch of brilliant economists testifying—but it defies basic economics as we think of day-to-day economics.

In Canada, as the coronary bypass operation became more of a routine operation, the price went down. In the United States, the price keeps going up. I think it is a very difficult problem. We haven't dealt with it yet.

Representative SCHEUER. What simple change in the system would you advocate to reduce overuse of the system, especially for unnecessary operations? Is it a mandated second opinion or third opinion or doctors' panel before elective major operations could get approved?

Mr. CALIFANO. I think where we have second opinions they work. Let me give you two examples out of the Chrysler experience. I think they are both helpful.

We put in at Chrysler several years ago a precertification program for hospitalization whereby before Chrysler would reimburse, the number of days of a hospital stay had to be set and the patient had to have a second opinion that the procedure was needed. We put it in effect only for salaried employees because we had to wait until we negotiated with the union to put it into effect for the union employees.

We had phenomenal savings in the Detroit area because of the system. When I say phenomenal, I mean we think our health care bill of about $490 million was $50 million less than it otherwise would have been.

Now then the union agreed to the same procedure. We expected another stunning decrease in costs. We didn't get it. We went out to look at why and we found out that the doctors, just because they were subjected to this second review and these standards, had changed their method of practice. It didn't make any difference that you were in the union and I wasn't in the union when going to the same doctor. In effect, he subjected you in his head and in his method of practice to the same kind of "count to 10" system that he subjected me to and you got less surgery and less hospitalization as well.

DEVELOP STANDARDS OF CARE

The other example is that we can develop standards. We have been worried at Chrysler about the cost of disability. It has been rising very rapidly. So we spent a couple of years and we literally looked at 6,000 movements that people made in jobs at Chrysler and we analyzed that. We then looked at our disability program and what we found was wide variations in the length of time people were taking off when they were subjected to the same procedure, working in the same job, and had about the same profile—for common things—appendectomy, breast biopsies, a broken arm, a sprained back.

When we looked at these 6,000 procedures using a panel of 47 physicians and we put together treatment options and the length of time off from work people needed for various things. We put this system in place and we informed all the doctors in the Detroit area. We set up a process—much like hospital precertification—where doctors call if somebody comes in and claims disability. They have to check on whether disability is medically indicated and a target return-to-work date.

In the first 6 months of this program, we saved $3 million and 52,000 days of work. The doctors liked it because it gave them standards with which to resist pressure from patients for more time off. The workers liked it because they felt that they were being treated fairly, that there was a fair system. The union liked it because there was a reduction in the grievances and complaints about disability. Obviously Chrysler liked it because it saved quite a bit of money.

So I think development of standards is an important thing. And the other thing, in terms of physicians, we should find a way to pay physicians to talk to their patients because they could be one of the great promoters of health promotion and disease prevention, and as long as we pay them only to stick us and test us and give us pills, that's what they're going to do to us.

NATIONAL HEALTH INSURANCE

Representative SCHEUER. Governor Dukakis has recently led the way and gotten a State health care program in Massachusetts, from the cradle to the grave.

Let us hear what you think about that program and then let us hear whether you think the way of the future ought to be for individual States to evolve their own health care programs or has the time come for our country to put in place a national health care program?

Mr. CALIFANO. Well, I'm prejudiced about the Dukakis program, Mr. Chairman. Basically, the Governor's program builds on the employer-employee relationship and it mandates that employers provide coverage for their employees, a basic package of health care benefits. That is in general terms the proposal that I made when I was Secretary of HEW and which I laid out in my book on health care 2 years ago.

So I think Governor Dukakis' health care plan is excellent and, of course, in the course of that, either through premiums, taxes, whatever you want to call it, through the common pot, you're going to have to pay for some people that simply will not be employed, they'll be old, or they'll be unemployable, disabled, or very poor.

Representative SCHEUER. Will that common pot be so large and so burdensome in States that have a lower wage level as to make it unworkable?

Mr. CALIFANO. I think personally that we have to do this on the national level. I think the Federal Government should mandate that every employer provide a package of benefits for employees. Every industrialized country, including Japan, has a system. They are built on the system as it existed. In Britain, the reason that doctors and nurses are on the Government payroll and the Government owns all the hospitals is that Britain put its plan in place right at the end of World War II and all the doctors and nurses were in the military and the voluntary hospital system had collapsed. It had been taken over by the Government because it was full of war combat victims.

In Germany, the health care system is very insurance oriented because that's the way it started. So in the United States, where do we get health care? The overwhelming number of our people get health care through the employment relationship. Why not use that relationship to provide it? Let's remember with respect to that, when you talk about 37 million people not having health care insurance, two-thirds of those people work. They're not bums sitting somewhere. Two-thirds of them are working and they work in jobs where there is no health care insurance provided.

It's astonishing to me—I have a son who is now in Germany working in a hospital as a half-student-half-worker, as an alien. For $45 a month, he gets complete health care coverage in the German system and it's something. In the United States, a half-student over 25 is ineligible to be covered by my group policy, we all know he would be paying a few hundred dollars a month and not getting that total coverage.

We can do it in this country and I think that the Dukakis plan provides a model for how to do it nationally.

Representative SCHEUER. A model that we ought to think about nationally in Congress?

Mr. CALIFANO. Absolutely.

GERIATRIC RESEARCH PRIORITIES

Representative SCHEUER. On the need for futher research of all kinds for the elderly, would you expand the National Institute on Aging or would you create some kind of a new institute?

Mr. CALIFANO. I would tremendously expand that. I think the most incredibly shortsighted part of our health care research policy is that we're not really investing dollars in things that cost so much money and create so much misery for our people—incontinence, mental disorientation, loss of memory, immobility. You just look at those three things.

Representative SCHEUER. Arthritis and osteoporosis.

Mr. CALIFANO. All of that stuff. If you look at those things, when you look at the numbers of what it's going to cost to institutionalize or provide home health care or do something for the elderly, when you look at the human problems it causes for the sandwich generation that's educating kids and taking care of parents, not to invest at least a billion dollars a year—we invest over a billion dollars a year in cancer. I understand cancer is a terrible disease, but we know the huge number of people that are going to be affected by these problems of old age. The only way we're going to be able to provide institutional care and appropriate home care for our elderly is to shrink the period of time during which they need that care. Not to put research dollars there just makes no sense to me.

Representative SCHEUER. Mr. Secretary, time is passing and I hate to do this, but we're going to have to bring this marvelously interesting discussion to a close. I'm going to ask you one last question.

If you were king for a day and there were no cost constraints but your own intelligence and responsibility, your own knowledge and sense of discipline, give us two or three things that you would do for our national health care system to make it rational and to make it more cost effective and make it more caring.

Mr. CALIFANO. I would mount a massive health promotion-disease prevention program. I would put enormous research funds into elderly and into addiction. Addiction is the No. 1 health problem in the United States of America. We shouldn't forget that. When you look at the people in hospitals, in New York City where you come from, more than half the people in the public hospitals are there because of alcohol.

NATIONAL HEALTH INSURANCE

I would have some kind of a national health care system along the lines I indicated. I think it's one of the few ways we have of getting control of health care costs and providing access to care. Health care—we say it but we don't really implement it—is a right. Why should I have better health care than somebody that's out on a grate on the streets of Washington? Those are the things I'd do.

Representative SCHEUER. Of course, the unspoken question that nobody likes to ask and nobody likes to even think about answering is, can we afford to give 242 million people equal access to the best in American health care with all of its extraordinarily interesting and perhaps productive but very expensive high-tech, new drugs, new medicine—can we afford to do that?

Mr. CALIFANO. I'll let the economists deal with that in numbers, but I would say the answer is yes. If we eliminate the waste in the health care system, you're talking about, in my judgment, at least $125 billion of what we'll spend this year is spent unnecessarily. That's an awful lot of money to be available for the 37 million people that aren't covered.

Two, we mandate that employers provide coverage for their employees. You can phase that in and it will work its way gradually so a candy bar will cost a little more or a pizza will cost a little more or what have you but we'll each pay for that.

Three, we're still the most affluent country on this Earth and it seems to me that we should be able to find a way to provide that care for our people.

Representative SCHEUER. Mr. Secretary, we are all indebted to you. You are a truly stimulating and challenging witness. We're very grateful to you for taking time out of your busy schedule. Thank you.

Mr. CALIFANO. Thank you, Mr. Chairman, and thanks for these hearings.

Representative SCHEUER. Thank you very much.

EXPENDITURE TRENDS

We will now ask the first panel to come to the table.

This is a panel on the U.S. experience and it will be followed by a panel on foreign experience to help us do some comparative thinking about how countries are controlling health care quality and health care costs.

For the panel on the U.S. experience in health care, we have Mr. Daniel Waldo accompanied by Mark Freeland, both economists with the Health Care Financing Administration, known as HCFA, then we will hear from Ms. Karen Davis, currently chairman of the Department of Health, Policy and Management of the School of Hygiene and Public Health at Johns Hopkins. She's former Deputy Assistant Secretary for Planning and Evaluation for Health at the Department of Health and Human Services and she's been a visiting lecturer at Harvard. Ms. Dorothy Rice is professor in the Department of Social and Behavioral Sciences and Institute for Health and Aging, at the University of California at San Francisco and she is the former Director of the National Center for Health Statistics at the Department of Health and Human Services. And we wish to thank you, Ms. Rice, for your extensive help in organizing and conceptualizing this hearing dating back almost a year, if my memory serves.

All right. Why don't we ask each of you to chat with us for 7 or 8 minutes and then I'm sure we'll have some questions for you. All of your prepared statement will be printed in full in the record, so you can summarize informally and don't hesitate to address anything you may have heard from Secretary Califano or my remarks. Mr. Waldo, please proceed.

STATEMENT OF DANIEL R. WALDO, ECONOMIST, HEALTH CARE FINANCING ADMINISTRATION, DEPARTMENT OF HEALTH AND HUMAN SERVICES, ACCOMPANIED BY MARK FREELAND, ECONOMIST

Mr. Waldo. Thank you, Mr. Chairman. I'd like to point out that I'm accompanied today by Mr. Freeland, one of the most authoritative experts in our office on reduction in health care spending. He's available to answer any technical questions you have about the projections of spending in the future in the United States.

I also appreciate your offer to print the prepared statement in whole, because with the amount that I have here, I can't talk that fast in 7 minutes, so I will just summarize comments that I've made.

Our office works on estimates of national health expenditures. We're the people that produce the estimates that have shown that health care spending has increased at a much more rapid rate over the past 25 years than has the gross national product as a whole.

The exhibits that appear in the prepared statement will show that we are projecting that the difference in growth between national health expenditures and the gross national product will continue into the future as well. Today I'd like to talk a little bit about why that might be.

The proximate consequence, however, of national health expenditure growth in excess of the gross national product is that the infamous statistic—national health expenditures—as a percent has been rising with almost monotonous regularity. In the exhibits you can see that we have gone from a number that was around 3.5 percent of the gross national product in 1929 to some 6 percent in

1965, just prior to the advent of medicare, to a point where we are consuming about 10.9 percent of the gross national product today for health care spending. If trends continue, we could spend as much as 15 percent by the year 2000.

Representative SCHEUER. What do you project a century from now or half a century from now?

Mr. WALDO. I wouldn't even want to make a guess about that. The trend is going to continue to increase.

Representative SCHEUER. Well, you can project ahead I think the percentage of the elderly in our society, not only those above 65 but those above 80 and even those above 100 is increasing exponentially, so doesn't that give us some clue as to what that graph will look like perhaps a quarter of a century or more ahead?

Mr. WALDO. It gives us a general idea. I think that we will continue to see health care rising as a percent of the gross national product. The difficulty in extending a forecast out so far in time is that medical technology advances so rapidly. If we look at things that we can do today that were just undreamt of 10 years ago, we see that 10 years from now there could be major medical breakthroughs in the treatment of the diseases associated with aging that would reduce health care spending.

Representative SCHEUER. Just to illustrate that, I'm on two miracle drugs for cholesterol, lobistatin and cholestin, and I expect to last here actively until I'm a full committee chairman. [Laughter.] I didn't have that prospect with my cholesterol levels 10 years ago.

Mr. WALDO. And that in a sense is—not speaking personally now—but it is good news and bad news.

Representative SCHEUER. I'm truly sorry you feel that way. [Laughter.]

Mr. WALDO. Of course, the good news is that people today are able to live productively—the same people who with similar conditions 10 or 15 years ago would have died. So we have extended life. We have extended the length of life. We have extended the productivity of life.

But there's a dollar cost that's associated with that, and those kinds of costs that are associated with the prevention of early death are the sorts of things that are contributing to the rise in our health care spending.

COMPONENTS OF EXPENDITURE TRENDS

Now the problems of a rising expenditure can be accounted for by a number of different phenomena, and they are inextricably intertwined. It's difficult to separate them, but we can talk about them in two general groups—those are related to price inflation and those that are related to consumption of services.

Health care price inflation has long been held up as one of the bugaboos of the system. The medical care component of the Consumer Price Index has chronically outpaced the total index and has been used as an indictment of the provider community—provider avarice, inefficient reimbursement patterns, and so on. But I think that there are some other reasons why health care inflation is more rapid than general price inflation, and I think that these are reasons for which we can expect to see a continued differential between medical care CPI growth and CPI growth for all items.

One of the famous economic models of development says that service industries, industries in general where there is a lot of labor involved and little opportunity for technical productivity gain, will see a more rapid price inflation than commodities in general. And I think that's a lot of what we're seeing in the health care community.

There is the trend for more rapid price inflation. The level itself could be affected by a number of different things and Secretary Califano addressed many of those.

But even if we were able to address many of those concerns, we can't expect to see short-term improvement in the level of expenditure. I think the long-term trend is going to continue to be up, and it's going to continue to be a divergent trend.

CONSEQUENCES OF EXPENDITURE TRENDS

That creates problems for us in terms of financing health care programs such as medicare. Medicare part A, which is financed by payroll taxes, will receive as its income a stream that is a function of wage increases and increases in employment. If wage increases tend to increase with the Consumer Price Index, at a rate of about 2 percent slower per year than medical care price inflation, we can expect that income for the program is going to lag behind the reimbursements that are going to be expected from the program.

And in the absence of an increase in payroll taxes or some change in the reimbursement mechanism, this sort of inexorable pressure is going to lead to a real crunch somewhere down the road in terms of the ability of the program to pay benefits. The trustees' report for the medicare part A program has come out and every year it's projected that the trust fund will be exhausted. The current estimates are that sometime around the turn of the century, 2005 now, we are expected to run out of money to pay for part A benefits.

Medicare part B benefits, which are subsidized to the tune of 75 percent by general tax revenue, are not projected to be bankrupt because the trust fund operates in a different fashion. But it is expected that with the implementation of catastrophic care and the general increase in part B services to beneficiaries, a larger and larger portion of our general tax revenue is going to be required to support the program in the absence of any changes.

COMPONENTS OF EXPENDITURE TRENDS

The other aspect of consumption in the United States that leads to a higher rate of growth is the use of health care services. We tend to think often of health care as some sort of a homogenous good that people receive, but in point of fact, the various kinds of services that are offered in the United States have been consumed at differing levels.

Exhibit 9 in my prepared statement will show that, for example, the use of hospital services—hospital inpatient days—increased through the early 1980's at which point private sector initiatives to contain costs and later the medicare prospective payment system succeeded in reversing the trend of inpatient days.

Ironically, the same forces that led to a decrease in the number of hospital days have led to an increase in the number of physician visits. So the time trend of physician visits, which have been essentially flat for much of the previous two decades, began to turn up around that same time.

Prescription drugs, to which you alluded earlier, have been rising at a very, very rapid rate. That's a function of medical technology. It's a function of treatment preferences by physicians.

These sorts of trends will continue in the future. They are triggered not only by population increase but also by the aging of the population and by all the different developments in medical technology. Such developments add to costs, bring in new services at a higher price than existing services, and again offer us a tangible benefit that is nonmonetary in return for a tangible cost that is monetary.

I'll conclude at this point and point out that there are some very strong economic reasons for the increase in health care costs, things that we're going to have to address in a societal fashion if we're going to be successful in constraining them. Thank you very much.

[The prepared statement of Mr. Waldo, together with exhibits, follows:]

PREPARED STATEMENT OF DANIEL R. WALDO

HEALTH EXPENDITURES IN THE UNITED STATES: WHAT DO THE NUMBERS SHOW?

By now almost everyone with an interest in health care financing is aware of the trends in health expenditure. Those trends are viewed with varying degrees of alarm, and a number of efforts have been mounted to control or reverse the growth of health care spending. In my testimony today, I will identify some of the reasons for which health care spending has been growing, and attach numbers to some of those reasons. I hope also to show what the implications of those reasons are for the future of health care financing.

In my testimony, I will be relying heavily on work done by my colleagues in the Health Care Financing Administration's Office of the Actuary. An article detailing the current and projected levels of health expenditure appeared in last summer's Health Care Financing Review, and we are completing work on updated estimates of 1987 spending at this time.

AN OVERVIEW OF THE HEALTH DOLLAR

Probably the most famous (or infamous) statistic related to health expenditure is the size of that expenditure compared to the nation's gross national product (GNP). As you can see in Exhibit 1, growth in health spending has exceeded that of the GNP -- the source of our ability to pay for that care -- with almost monotonous regularity. This was true before Medicare and Medicaid and has been just as true since then. The exhibit also shows that, as a result of its more rapid growth, health spending occupies a larger and larger role in our economy; currently, Americans spend an amount equal to 11 percent of their GNP for health goods and services.

But sweeping comparisons such as these tend to obscure that health care is not some monolithic, homogeneous product. Generally speaking, the average growth rate for national health expenditures has been falling since 1980, mostly as a result of diminished price inflation. However, growth of expenditure for some types of goods and services has changed more than has that for others. Exhibit 2 highlights the differences in growth among major categories of spending. For example, while spending for hospital services ranks among the fastest-growing categories over the period 1965 through 1987, the average rate of growth has subsided fairly significantly during the last few years. Physician spending, on the other hand, has experienced fairly slight declines over the period.

In our annual article on health care spending, we include a breakdown of the broad factors accounting for growth in health care spending. From this breakdown, shown in Exhibit 3, one can see that the bulk of growth in spending is attributable to price inflation, while simple population growth accounts for a relatively small portion. A sizeable chunk of the change in growth is due to changes in use per capita and intensity of service per contact.

While such a presentation is useful in a very broad way, it really lacks the detail needed to analyze more delicately the effects of all these various considerations, because it highlights the symptoms -- rather than the causes -- of growth. Exhibit 4 lays out a much more detailed taxonomy of factors affecting the growth of spending; I will discuss (rather briefly, perforce) price inflation, demographic pressure, and consumption per capita, recognizing that all of these factors (and any others, for that matter) are inextricably intertwined.

THE EFFECTS OF MEDICAL CARE PRICE INFLATION

One of the most visible red flags waved in the area of health relates to price inflation. Medical care prices have consistently grown more rapidly than have non-medical prices, and there is no reason to see any different patterns emerging in the future.

However, while this phenomenon causes no end of headaches for policy makers (and trust fund guardians), it is not merely the result of provider avarice or perverse reimbursement incentives. The numbers themselves can be deceptive. Exhibit 5 shows the two series most often compared: the consumer price index (CPI) growth for all consumer items and for medical care items. From the exhibit, one might conclude that the "inflation gap" had widened in 1986 and 1987, and that it was now beginning to close. However, we can get a different perception of the situation when we dig below the surface of these figures. The drop in overall price inflation in 1986 and 1987, and the acceleration of the same in 1988, was concentrated in one commodity area -- energy. A graph of medical care inflation against that of all items except energy reveals that the apparent divergence of the two types of inflation was not nearly as much as otherwise indicated. Indeed, much of the convergence and divergence of medical care price inflation and general price inflation can be traced back to extraordinary circumstances: the Economic Stabilization Program of 1972-74, the mortgage rate frenzy of 1979, and so on.

The various goods and services that make up the medical care component of the CPI market basket have experienced differing trends in price inflation. For example, prescription drug prices, after decades of little or no change, began to climb rapidly late in the 1970's and now represent the leader in health care price inflation. Conversely, hospital charges had been growing at very rapid rates through the end of the 1970's, and then subsided fairly quickly with the onset of cost containment exercises. Exhibit 6 shows trends in price inflation over time for these and other components.

There are reasons to expect that medical care price inflation would exceed the general rate of inflation. Economic models of productivity and inflation lead one to conclude that service prices (more generally, the prices of labor-intensive products) will rise more rapidly than will commodity prices over time. Service industries are characterized by lower productivity growth than are manufacturing industries, a phenomenon attributable to the labor-intensity of service production. When workers in service industries receive a general wage increase comparable to that received by manufacturing employees, the unit labor cost increases in the service industry. This puts pressure on output prices, more so for services than for manufacturing*. This piece of economic theory seems borne out in fact: services price inflation has been greater than the general rate of inflation over time. Still, medical care price inflation has been faster on average even than service price inflation.

There are reasons for relatively rapid medical care price inflation additional to the general theory of price inflation discussed above. Part of the increase could be due to the introduction of new products and treatments. These innovations typically depend upon technological breakthroughs, and the implementation of technology that creates new products tends to have a high price tag (which is factored into the providers' price structure). A second factor affecting price inflation may be the current product liability climate (a factor that also affects consumption per capita). To the extent that consumer prices must be raised to offset malpractice insurance premiums or their equivalent, we can expect medical care price inflation to rise more rapidly than would otherwise be the case. A third factor might well be the old "economic rent" phenomenon. Uwe Reinhardt, among others, has written about the net transfer of real resources from consumers to providers of care. It is nearly impossible to quantify the effects of these potential factors, or even to rank them, but it is clear that each would push medical care inflation above the general rate*.

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* Actually, the theory is much more general, describing the differential price inflation of "low productivity growth industries" and "high productivity growth industries" regardless of whether they are service or manufacturing.

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* A measurement issue related to the relatively rapid growth of medical care prices is that, more so than with other goods and services, it is difficult to separate pure price change from that caused by changes in the quality of the product. While the latter should in theory be ignored in the CPI, it may be impossible to isolate it in the case of health care.

Another measurement issue relates to the reliance upon charges ("list prices") rather than on reimbursement schedules ("transaction prices") for a measure of price. If charges are raised (to position oneself for next year's reimbursement schedule, for example) without any change in reimbursement rates, the CPI will increase without any "true" inflation.

DEMOGRAPHIC INFLUENCES

Let me turn now to demographic influences upon health care spending. Much has been made of the aging of the population and the effect of this phenomenon upon health care spending. The Census Bureau tells us that the number of people aged 65 years and older has risen from 4.1 percent of the total in 1900 to 12.2 in 1987, and will be 13 percent at the turn of the next century. Of course, health spending rises with the sheer number of people, and our population has been growing at about one percent per year. So we can expect at least that much growth in total health care spending. However, we feel that at least through the turn of the century the aging of the population will have a fairly small effect upon the growth of expenditures, contributing between half and three-quarters of a percent per year to growth. The biggest effects are expected to occur after the year 2010, when the first of the postwar baby-boomers reach retirement age.

One way to visualize the effects of age shifts on health care spending is to recalculate the cost of health care in the current year as if the age-sex composition of the population were as it was several decades ago or as it is projected to be several decades in the future. This approach, illustrated in Exhibit 7, freezes prices, technology, and population size. In 1986, spending for care in hospitals was $180 billion, or about $720 per person. If the younger population mix of 1946 had been in place in 1986, spending would only have been about $631 per person (a total of $157 billion). The difference is small because the effects of aging in that period were small. On the other hand, if the age-sex mix of 2026 were imposed on the 1986 hospital system, it would have generated spending of about $231 billion, $926 per person, to deliver the same age/sex-specific quantity and quality of services. For other services, the effects of aging are more or less dramatic, depending on the nature of the service. The exhibit also shows, for example, that the cost of nursing home care would have been cut nearly in half if the 1946 age composition had applied, or increased by about 70 percent if the 2026 age and sex structure were in place. In this case, past growth looks more dramatic than the future, because nursing home services are concentrated in the over age 85 group. The peak cohort of the baby boom will not reach age 85 until 2055.

The change in age distribution of spending also will affect who pays for the services, provided that financing channels remain as they are today. Exhibit 8 shows that for major acute care services, the Medicare share of total spending would increase and the insurance share would decline over the next several decades. This would occur because Medicare spending is concentrated on the aged and because there is less private insurance coverage of hospital and physician services for the aged than for the rest of the population.

[The effects of demographic change are treated in greater depth in the annual expenditure article in the summer 1987 Health Care Financing Review.]

For the next several decades, then, we expect a small boost to spending as a result of growth and change of the population. The consequences of demographic change for Medicare, on the other hand, will be much more marked. The number of people eligible for Medicare grows about two percent per year, while the working-age population, from whose payroll taxes is funded the Hospital Insurance (or Medicare Part A) program, grows around one percent. Combined with the relatively rapid growth of medical care prices discussed earlier and the growth of consumption per capita discussed below, the squeeze on Medicare financing becomes clear. Add to the travails of Part A the fact that three-quarters of Supplementary Medical Insurance (Part B) benefits come from general taxes, and the projected pressure of the aging of America upon the financing of Medicare becomes ominous indeed.

CONSUMPTION PER CAPITA

In the simplified allocation of growth I mentioned earlier, about a quarter of the increase in health spending was attributable to factors other than price inflation and population growth. Some of that is accounted for by aging of the population, as discussed above. The rest is due to changes in consumption per capita, both through the mix and volume of patient contacts and through the "intensity" of service per patient contact.

The trends in consumption are not uniform across services. Exhibit 9 shows patterns of use for three of these: hospital care, physician visits, and prescription drug mentions. While use of hospital services grew and then waned, and that of physician office visits remained fairly steady, use of prescription drugs has increased steadily. Clearly, a detailed discussion of the use of health care services must be tailored to individual types of service.

In general, though, what can be said about trends in use? Do they have points in common? I think that they do, although a factor which raises consumption of one type of service can simultaneously have the opposite effect on another type. Let me discuss briefly six broad forces operating on demand.

Income It is axiomatic among economists that the last sector to develop as a nation matures is its service sector. Health care is basically a service. Thus, it should come as no surprise that the health sector is growing more rapidly than is the rest of the economy. As individual and national income grow, more purchasing power is left after satisfaction of necessities to purchase health care (although we tend sometimes to think of health care as a necessity, professional health care is not always a requirement of life).

Technology Earlier, I mentioned the effect of technology upon price inflation. It also tends to raise consumption, by creating new services. Lens implantation, coronary bypass, and other procedures allow treatment of previously untreatable conditions. CT and PET scanning and MRI provide diagnostic information that previously could not be obtained, or that could be obtained only with peril. Such technological advance may improve health status, but it also increases health expenditure.

Taste Perhaps a fallout from the increase in income, many consumers are changing their desire for medical goods and services. Adult orthodontia and suction lipectomy are two well-known examples of medical care for which demand has increased.

Morbidity Americans, we know, are "living healthier," at least to a certain extent. However, in a fairly ironic turn of events, as we continue to reduce the rate of "low-cost" sudden deaths -- from cardiovascular disease and so on -- it means that more people will be dying from the expensive diseases such as cancer. In addition, a fair amount of medical care is spent not in prolonging life but in prolonging death. In cost-benefit language, some of the (nonmonetary) savings we recover from prevention of premature death are spent in (monetary) treatment of the diseases that follow.

Reimbursement and practice patterns There is some evidence that not only changes in insurance, but the level of insurance itself, contributes to the growth of spending. In addition, concern over malpractice liability and internalized target levels of income may cause some providers of care to induce demand; health care is one of those strange markets in which consumers must rely heavily upon suppliers to determine the extent of demand. Finally, the attractiveness of third party coverage of benefits may lead to a growing definition of "health care," to cover such areas as speech therapy and psychotherapy.

SOME FALLACIES REGARDING HEALTH EXPENDITURE

In the national debate over rising health care costs, a number of "facts" have been taken for granted by some participants. I would like to address three of these "facts" today to show how the trends in health care spending can be misconstrued.

"Has cost containment failed? Analysts note that the rate of growth of health care expenditures, measured in terms of opportunity cost (the amount of non-health goods and services that could have been purchased with the money spent for health care), has been roughly the same after 1982 as before. Is this a sign that the private and public cost containment efforts recently instituted have not had an effect?

There are two reasons why cost containment measures may have little effect upon national growth rates. First, their scope may be limited. For example, Medicare's prospective payment system (PPS) was very successful at reducing the use of inpatient hospital services. Yet for all that it was ballyhooed as the wave of the future, PPS only affects about 80 percent of Medicare hospital inpatient expenses, an amount equal to 8 percent of all national health expenditures. Achieving a 10-percent reduction in PPS expenditures, for example, would translate into a decrease of 0.8 percent in national health expenditures if everything else remained constant*. Second, many cost-containment measures are designed as much to obtain local price discounts as to reduce total spending. Employer use of preferred provider organizations, for example, is an attempt to use their oligopsonistic power (which is an economist's way of saying that it is an attempt to foist costs off onto somebody else, be they providers or less influential patients or insurers). In both of these cases, very successful cost containment measures will not show up in the national numbers, because they are limited in scope or in area.

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* Remember, too, that in its first years PPS was designed not to reduce total spending, but rather to redistribute it among various hospitals.

Is the increase in health spending as a percent of the GNP alarming? As that share increases, the trend is held up as an example of a "system run amok."

I believe that the trend is not only inevitable, but that it may be desirable as well. First, as national income increases, more and more money will become available for consumption of health care. Second, however small the effect may be, the aging of the population will exercise a small upward pressure upon health care spending relative to GNP. Third, Americans seem to be willing to pay for health care; witness again the rise in adult orthodontia.

All of this is not to say that we have the optimal system of health care. I will discuss that in a moment. But there is no reason to choose any given proportion of the GNP as the "right" level of spending.

Are we going broke paying for health care? For an individual, or for Medicare, this may be true. But as a nation it is not true. And even on the individual level we must be careful when comparing different times.

First, let's look at the nation. It certainly seems reasonable to conclude that if we are spending a larger share of the GNP on health, that we must be spending less on everything else. But we must also take into account the growth of the GNP. For example, in 1965 we spent 6 percent of the GNP on health; the remaining 94 percent was valued at some $2 trillion in 1982 dollars, an amount equal to $9,609 per capita. In 1986, non-health GNP came to $13,382 per capita, an annual increase of 1.6 percent. At the turn of the next century, were health expenditures to account for 15 percent of the GNP, non-health GNP per capita would be $16,029 (again in 1982 dollars), an increase of 1.3 percent per year from 1986. So, even with a substantial increase in health's share of the GNP, we still would have more per person to spend on other things.

Even at the individual level, it is difficult to say that we are worse off today than before. Certainly the chance of catastrophic medical expense is present today, and there are people impoverished by medical care expenses. However, two additional points must be made. First, much of this medical expense is going for care that was simply unavailable in the past. More bluntly, some people who incur catastrophic health expenses today would have already died at this point in their life two decades ago. Earlier I mentioned that we have been purchasing the non-monetary benefit of longer life (and in many cases better quality life) with the monetary cost of medical care. When analyzing the costs of a system, we must also analyze the benefits. The second point regarding catastrophic medical expense is that it is as much a distribution issue as a level issue. That too few of the sick have adequate resources to purchase medical care is a problem for society as a whole to solve, not just providers of that care.

THE ISSUES TO ADDRESS

What are the real issues that need to be addressed in the health care financing field? I think that we have two basic problems that need to be resolved:

How do we get our dollar's worth? This is an area in which there are few ground rules, much less tangible goals. In addition to the technical efficiency of production -- whether providers are making too much money -- we must consider societal benefits and costs of increased government intervention and the resolution of the "how much" question.

How much should providers be paid for health care? Medicine has traditionally been among the highest-paid professions; should the gap between physician earnings and others' earnings be closing? Has technology made the practice of medicine more difficult, or less? Along similar lines, hospitals traditionally had been nonprofit in orientation if not practice; when purchasers begin to demand that hospitals behave like "real businesses," what expectations should we have regarding their profits? Recalling that target profit rates are a function of risk, what is the target rate for health care providers?

How much government intervention is right? Regulation and intervention go hand in hand, yet Americans have traditionally been leery of government intervention. What is the potential benefit of increased government regulation of the health care market, and what are the costs?

How do we determine the "correct" level of care? Clearly, there are diminishing returns to medical care, but what is the yardstick by which returns are measured? What is the value of a human life? What is the value of the alleviation of pain or the reduction of uncertainty? How can we compare these values between people?

How do we resolve issues of equity? With rapid increases in health care costs depleting the resources of those who use that care, we must address that depletion. We need to deal with intergenerational equity and with intragenerational equity.

The focus of intergenerational equity discussion is the impending insolvency of the Medicare Part A trust fund, but the Part B trust fund is involved as well. A couple retiring today can expect to receive in Part A benefits between 4 and 7 times what they and their employers paid into the trust fund (even accounting for inflation). The difference between what a beneficiary receives and what he or she paid in must be made up out of contributions paid by current wage earners. This arrangement works as long as there are sufficient wage earners, but that situation is disappearing. From the time when Medicare was instituted, the number of wage earners per enrollee has fallen, reaching 4.2 in 1987; by the year 2030, the ratio will be 2.2. Thus, unless some fundamental changes are made, the amount transferred per capita from younger generations to older must increase to maintain the solvency of the trust fund. Similarly, today's Part B enrollees receive about $4 in benefits for every dollar paid in premiums, the difference coming from general tax revenue. Again, as the ratio of retirees to workers grows, so must the transfer of tax revenue from younger people to older people.

The impending need to alter Part A financing leads directly to the consideration of intergenerational equity: should we cut benefits now, cut them later, or raise taxes later? Each option implies a different level of purchasing power transfer from the working-age generations to the Medicare-eligible generations*.

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* Studies completed in HCFA's Office of the Actuary show that the greatest intergenerational equity occurs when benefits are cut immediately, and tax rates are indexed to current program

Even with a successful resolution of the intergenerational equity issue, we must address intragenerational equity as well. Specifically, to what extent should those well off be required to subsidize the care of those less well off? Should the subsidy cover all types of health care, or just a specified subset of services? If so, how is the subset to be defined? How do we define the population entitled to subsidy: is income to be the criterion, or shall society also protect the assets or estate of a patient? Should society, through cost-shifting, subsidize the care of uninsured workers and their dependents, or should mandated health insurance be imposed at the risk of higher unemployment or higher prices?

CONCLUSION

One of the advantages of being the first speaker in a panel is that you get the easy job. I have described the past and current state of trends in health care financing. I also laid out what I believe to be the issues facing financers of care. I leave it to those who follow, to speak to the issues.

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costs; the least equity results from waiting until the program is insolvent to cut costs.

LIST OF EXHIBITS

Exhibit 1. Percent change in national health expenditures and in the gross national product, and national health expenditures as a percent of the gross national product

Exhibit 2. Average growth in selected components of national health expenditures

Exhibit 3. Factors accounting for growth of personal health care expenditures

Exhibit 4. How versus why medical care expenditures rise

Exhibit 5. Percent change in selected components of the Consumer Price Index (all urban consumers)

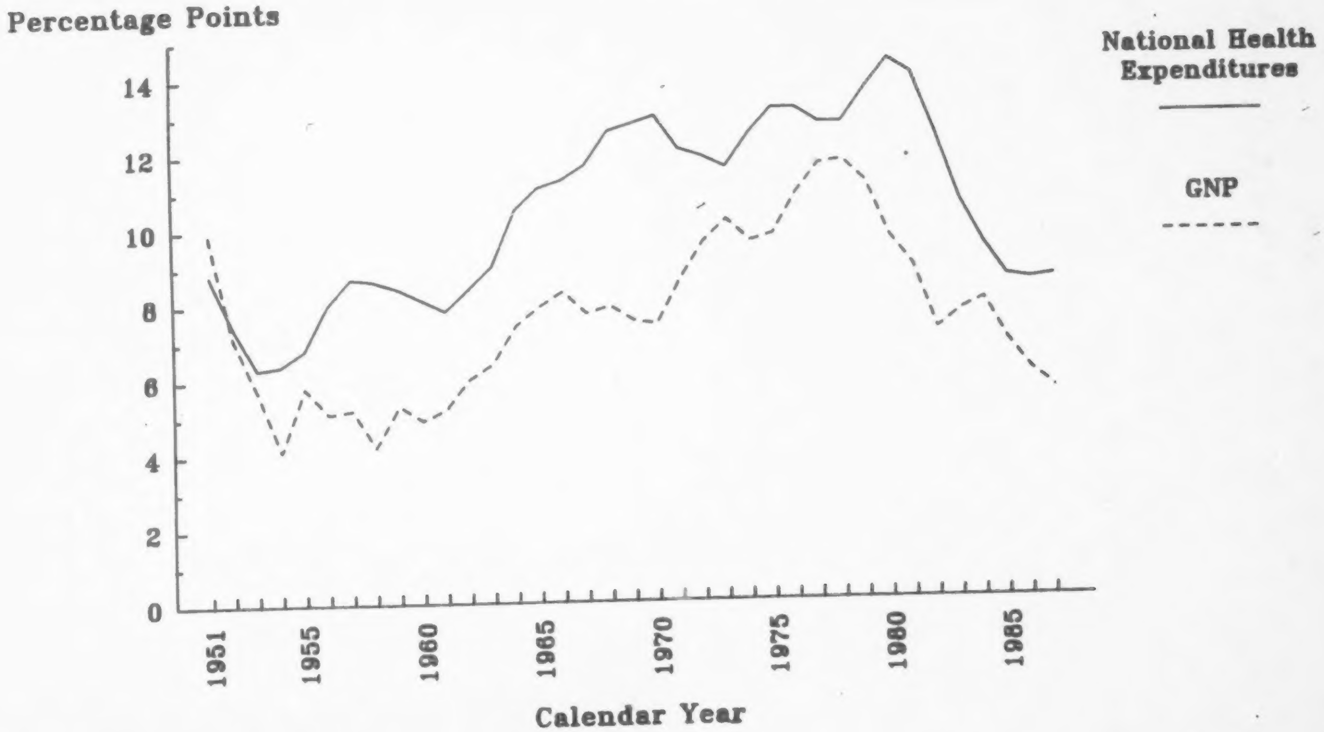
Exhibit 6. Average change in selected medical components of the urban consumer price index

Exhibit 7. Hypothetical 1986 expenditures under the age and sex structure of selected calendar years

Exhibit 8. Hypothetical distribution of spending among sources of funds, under the age and sex structure of selected calendar years

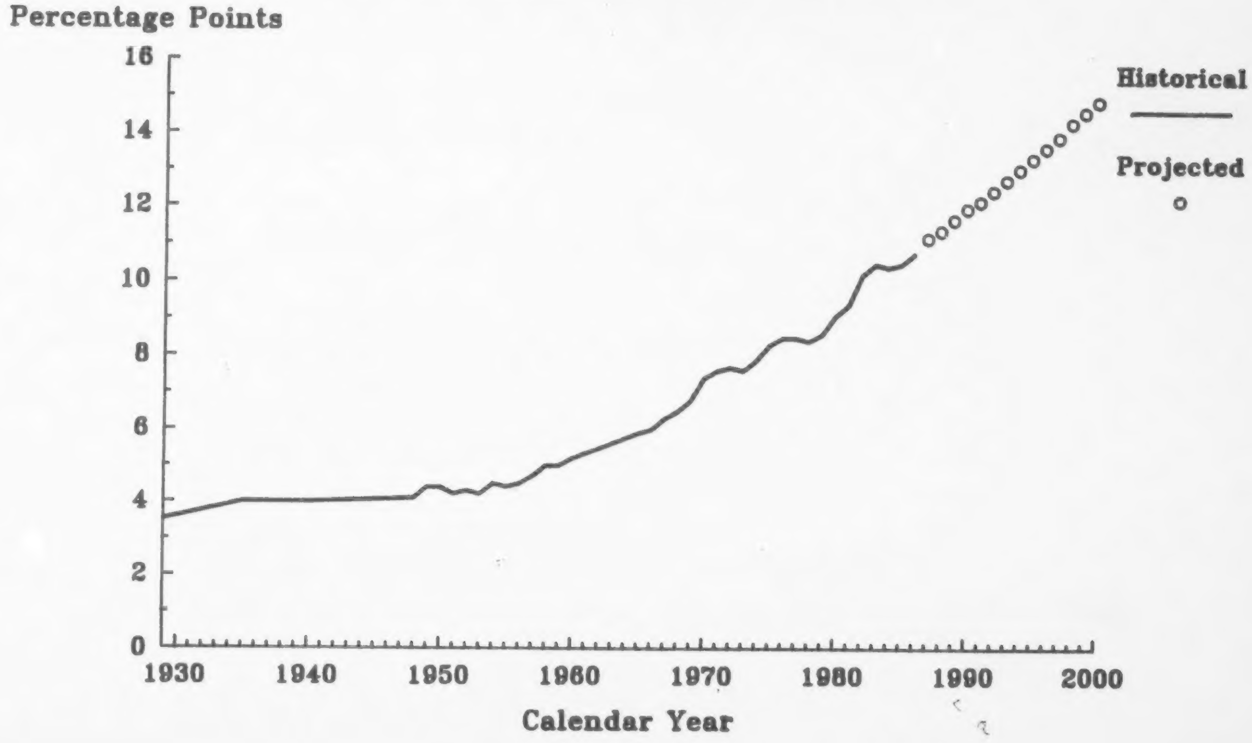
Exhibit 9. Use of selected health care services (1971=100)

EXHIBIT 1.
Percent Change in National Health Expenditures and in the Gross National Product



NOTE: Changes have been smoothed for legibility
SOURCE: Health Care Financing Administration

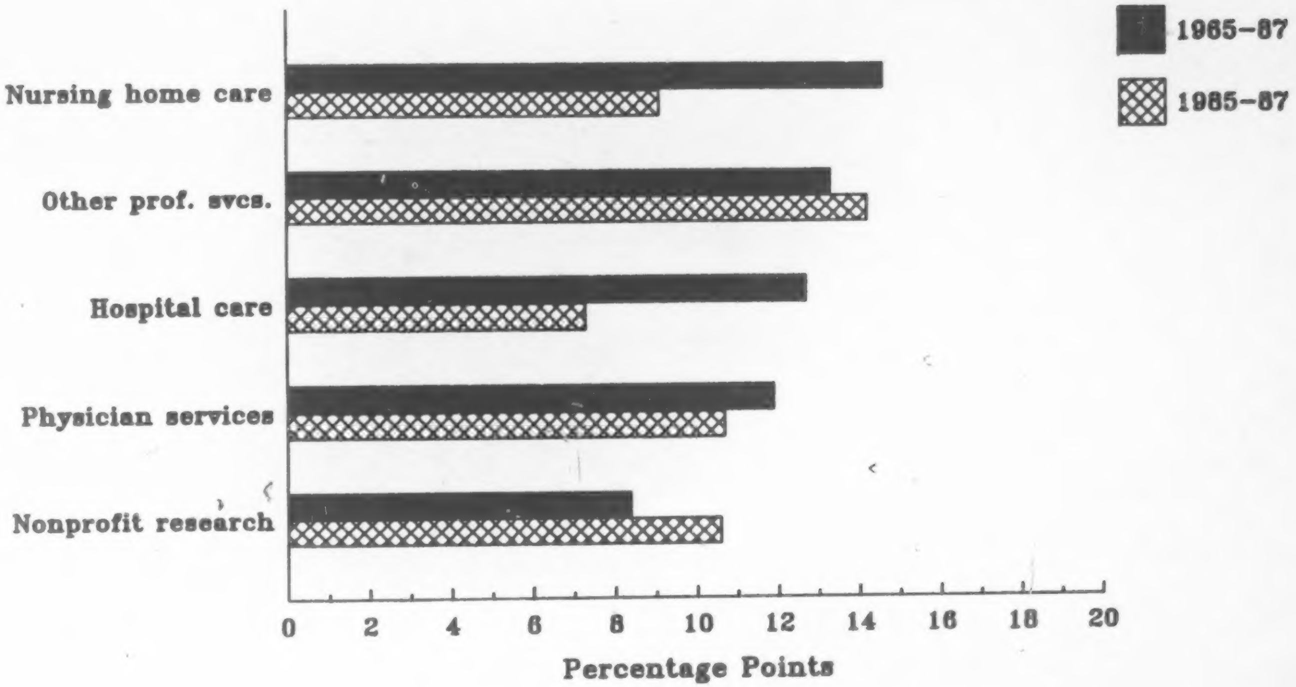
EXHIBIT 1 (Continued).
National Health Expenditures as a Percent
Of the Gross National Product



SOURCE: Health Care Financing Administration

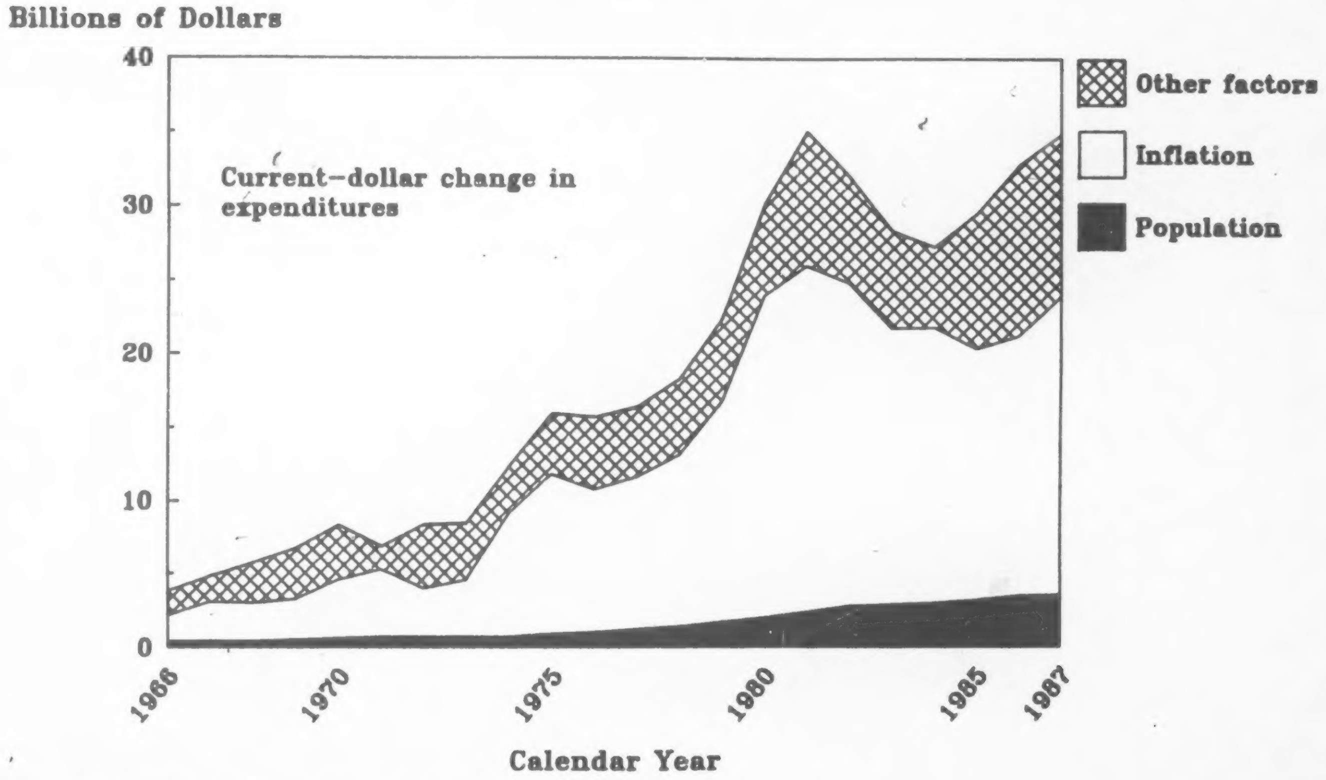
EXHIBIT 2.

Average Growth in Selected Components of National Health Expenditures



SOURCE: Health Care Financing Administration

EXHIBIT 3.
Factors Accounting for Growth of Personal Health Expenditures



SOURCE: Health Care Financing Administration

Exhibit 4.

How versus why medical care expenditures rise[1]

How medical care expenditures rise	Why medical care expenditures rise
Economy-wide factors	
1. General inflation	1. Monetary policies; fiscal policies relating to taxing, spending, and debt management; supply-side shocks such as energy price increases, food price increases caused by world-wide droughts, Social Security tax rate increases, and minimum wage increases; productivity changes; and monopoly powers of firms and unions over prices and wages.
2. Aggregate population growth	2. Birth rates, death rates, in-migration, out-migration.
Health sector-specific factors	
3. Growth in per capita patient visits or per capita patient days	3. Factors influencing the demand for and supply of medical care services: • Third-party payments which partially or totally insulate patients from the true total cost of services (demand-side factor). • Fee-for-service and cost-based reimbursement systems (piecework payment plans) that lack incentives to provide care in the least expensive manner (supply-side factor). • Application of modern techniques of finance, management, and information systems to improve efficiency and effectiveness. • Product innovative technologies that increase demand for the existing pool of patients and enlarge the potential patient base by expanding the diagnostic and therapeutic procedures and techniques to cover diagnoses and disease conditions that previously were outside the scope of such procedures and techniques. • Shifts in the diagnostic case-mix and in the age-sex composition of the population. • Increases in real income. • The psychological factor that achieving satisfaction in all other areas of life (material and nonmaterial) is conditional on and affected by one's subjective feeling of health status. If a person is not feeling well, other satisfactions are typically diminished and, in some cases, eliminated. • Availability of beds and health manpower.
4. Changes in the nature of services and supplies provided per visit or per patient day (product innovation, intensity of services, amenities, and so forth)[2]	4. Generally, the same factors as in (3) above; however, the relative importance of particular factors may differ.
5. Medical care price increases relative to general price inflation (GNP deflator)	5. This measures change in medical care prices relative to overall prices in the economy. It captures the interplay of (1) demand-pull inflationary forces (such as changes in deductibles and coinsurance); (2) cost pressures specific to the industry; (3) supply-side pricing behavior; (4) supply-side productivity behavior, and so on. In general, medical care prices increase faster than the GNP deflator. During periods of high growth in commodity and energy prices, the differential between medical care prices and economy-wide prices usually narrows. In addition, when overall price increases in the economy decelerate, medical care price increases typically decelerate with a marked lag. Generally, the same factors as in (3) cause the differential rates of price increase; however, the relative importance of particular factors may differ and, in some cases, the sign of the factor may differ. For example, increasing the number of dentists relative to population in a given geographic area may cause dental prices to rise more slowly than would otherwise be the case and to expand utilization of dental services in the geographic area. In other words, expanding the supply of dentists, all other things constant, may have a negative impact on price increases, but a positive impact on visits and intensity of services per visit.

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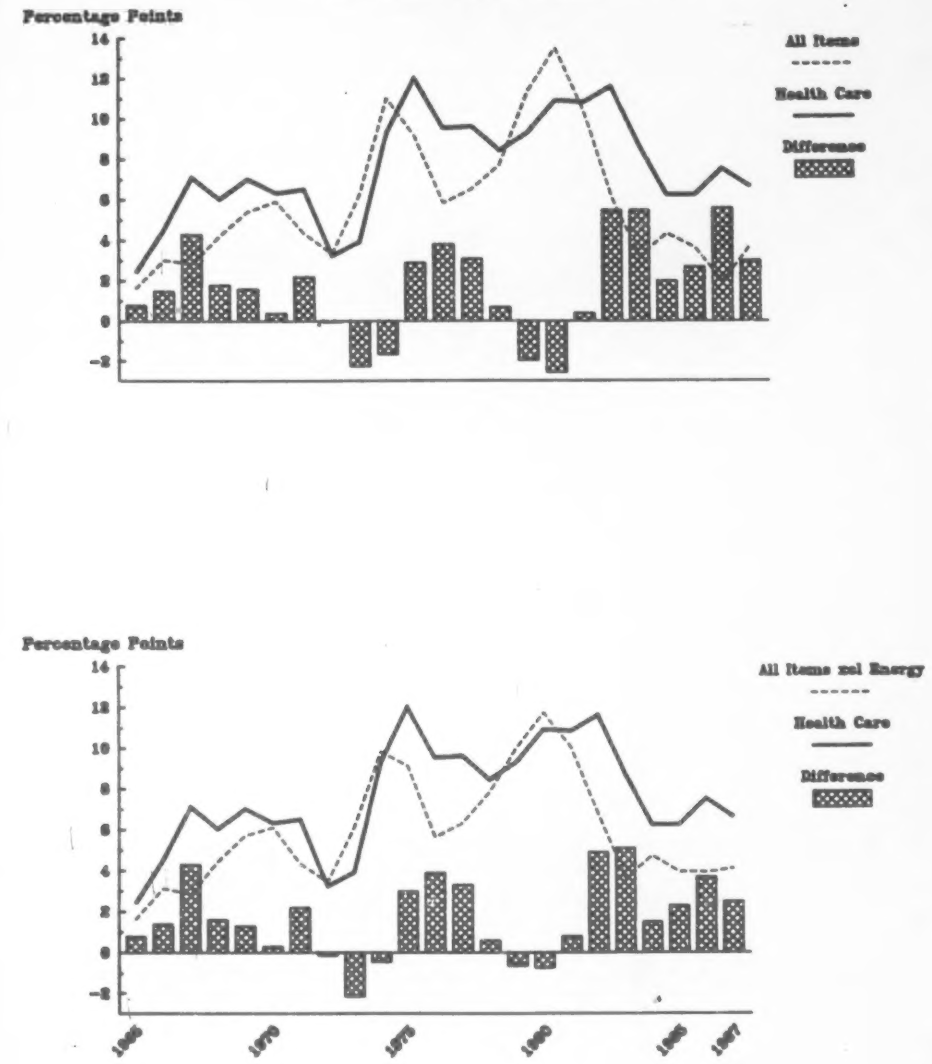
[1] Martin Feldstein (1971) has made this distinction between how vs. why medical expenditures have risen. For analyses accounting for expenditure growth using the how approach, see M. Feldstein (1971, 1981); Klarman et al. (1970); and Mushkin (1979).

[2] This factor is calculated as a residual by deflating current dollar expenditures per visit or per patient day by a relevant price index. This yields growth in real services or intensity per visit or per day. Since the five measured components (general inflation, aggregate population growth, growth in per capita visits or days, medical care price increases relative to general price inflation, and growth in total expenditures) are each subject to sampling variability and measurement error, it is important to interpret the residual category with caution. For example, if through unpackaging or unbundling of services (that is, separating services and procedures into finer components) and billing individually for each service or procedure, it may result in greater total revenues for a fixed volume and mix of services. Thus, *effective* price increases are greater than shown by National price measures, which do not reflect such unbundling or unpackaging. If the National price index (not reflecting unpackaging) is used to calculate the residual, it will result in lower price increases and higher residual growth than if the true (unbundled) price increases were used.

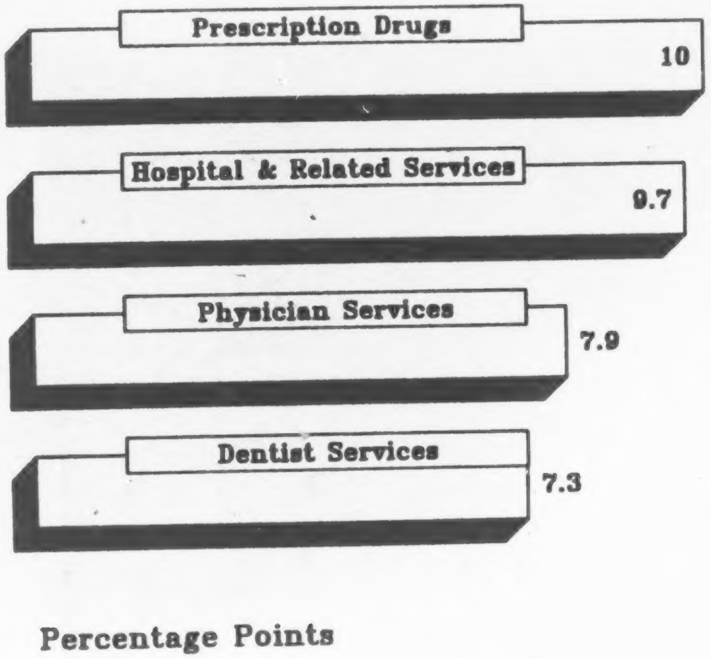
SOURCE: Bureau of Data Management and Strategy, Health Care Financing Administration.

EXHIBIT 5.
Annual Percent Change in Components of the Urban Consumer Price Index



SOURCE: Health Care Financing Administration

EXHIBIT 6.
Average Annual Change in Selected Medical Components of the Urban Consumer Price Index



SOURCE: Health Care Financing Administration

Exhibit 7.
Hypothetical 1986 expenditures under the age and sex structure of selected calendar years, compared to actual 1986 expenditures

Type of expenditures	1946	1966	1986	2006	2026
Total personal health	-12%	-10%	$404.0	+11%	+26%
Hospital	-12%	-10%	179.6	+11%	+29%
Physician	-3%	-5%	92.0	+5%	+15%
Nursing home	-45%	-30%	38.1	+38%	+70%
All other	-5%	-5%	94.3	+7%	+13%

NOTES: Figures in this exhibit combine the age and sex composition of selected calendar year populations with 1986 prices and patterns of use. Calendar year 1986 figures are shown to establish a reference point.

SOURCE: Health Care Financing Administration

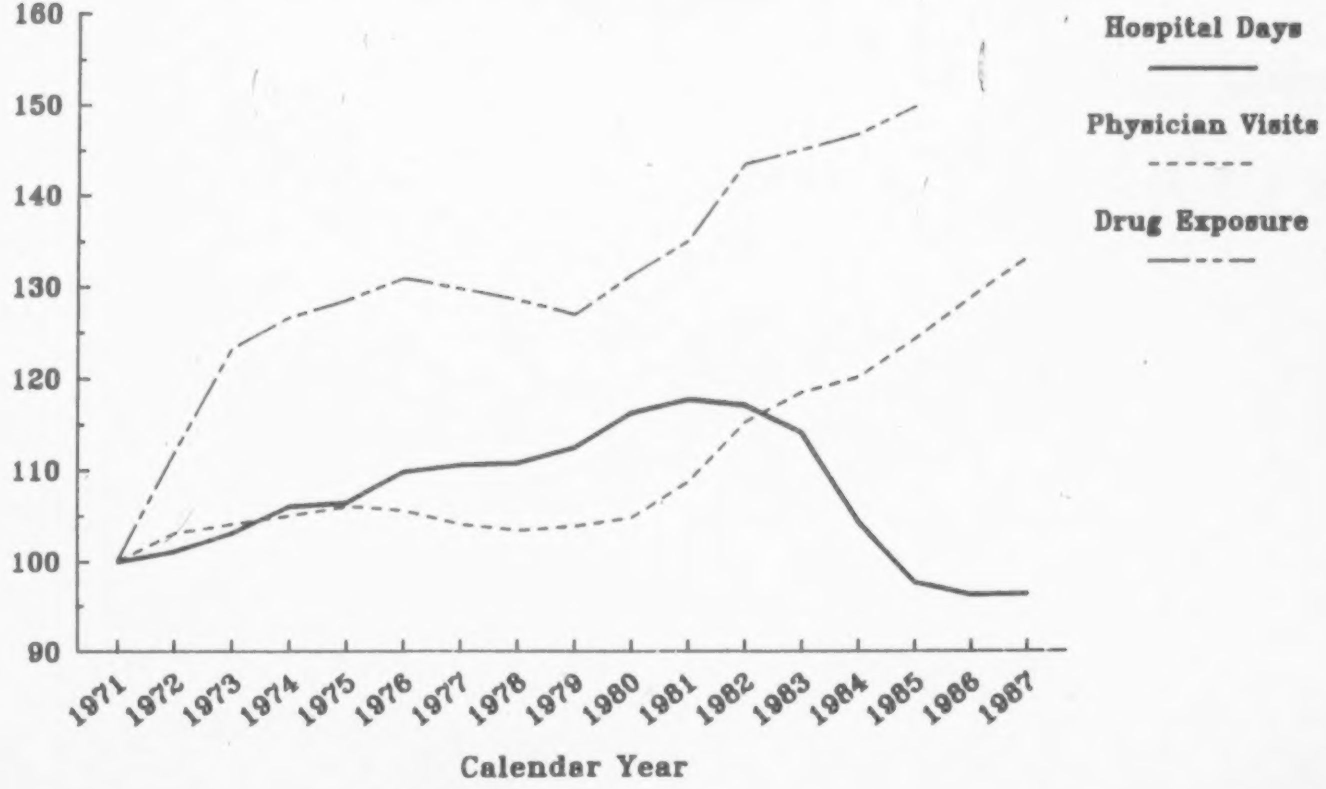
Exhibit 8.
Hypothetical distribution of spending among sources of funds under the age and sex structure of selected calendar years

Type of expenditure	1986	2000	2020	2040
Hospital care	100%	100%	100%	100%
Direct payment	9	9	8	8
Private insurance	36	35	33	28
Medicare	29	30	34	39
Medicaid	9	9	8	8
Other	17	17	17	17
Physician services	100%	100%	100%	100%
Direct payment	28	28	27	27
Private insurance	42	42	40	38
Medicare	21	21	26	30
Medicaid	4	4	3	3
Other	5	5	4	2

NOTES: Figures in this exhibit combine the age and sex composition of selected calendar year populations with 1986 prices and patterns of use. The calendar year 1986 distribution is shown to establish a reference point.

SOURCE: Health Care Financing Administration

EXHIBIT 9.
Use of Selected Health Care Services (1971=100)



SOURCE: Health Care Financing Administration

Representative SCHEUER. Thank you very, very much, Mr. Waldo.

Karen Davis, please proceed.

STATEMENT OF KAREN DAVIS, PROFESSOR AND CHAIRMAN, DEPARTMENT OF HEALTH POLICY AND MANAGEMENT, JOHNS HOPKINS SCHOOL OF HYGIENE AND PUBLIC HEALTH

EXPENDITURE TRENDS: 1950 TO PRESENT

Ms. DAVIS. Thank you, Mr. Chairman, for this opportunity to testify on the future of health care in America.

As we've heard today, health care spending has risen more rapidly than the gross national product for decades and projections to the year 2000 suggest that by the turn of the century the health sector will consume 15 percent of the Nation's total resources.

The United States has experienced some improvement in the health status of its population. People are living longer. The quality of life is improving. But many people question whether the increase in health spending is yielding commensurate benefits in terms of improved health or quality of life for Americans.

I would like to share with the subcommittee my own analysis of some of the past trends in health expenditures, point to those instances in which we tried to limit growth in health expenditures, what has been successful or not, and suggest ways in which the future growth in health spending might be slowed.

Mr. Waldo pointed out the very rapid rate of growth in health expenditures over time, but I've indicated in chart 1 of my prepared statement that if we break that growth down into different time periods we do see different patterns.

If we look at that period from 1950 to 1965, which I characterize as a period of rapidly increasing private health insurance coverage through employer plans, we see very rapid rates of increase in inflation adjusted health expenditures—the real health expenditures going up about 6 percent a year.

If we look at the period right after medicare and medicaid came in in 1965 up, through about 1971, we see that health expenditures went up about 7.5 percent a year in real terms. President Nixon instituted an economic stabilization program, a wage and price freeze, from——

Representative SCHEUER. 7.5 percent in real terms?

Ms. DAVIS. Over and above inflation; yes, sir.

Representative SCHEUER. That's a phenomenal increase.

Ms. DAVIS. A very rapid rate of increase in health expenditures. President Nixon was concerned about rising prices in the economy and in August 1971 introduced a freeze on wages and prices in the economy and various phases of that continued until 1974. During that period, the growth in real health expenditures slowed pretty considerably to about 4.5 percent a year. Then the freeze was lifted in the health sector in April 1974 and you immediately saw an explosion in health care expenditures again. Real health expenditures increased at an annual rate of 6 percent from 1975 to 1977 when Secretary Califano and I went to work at the Department of Health, Education, and Welfare and the impact of this increase on the Federal budget was a major concern.

We proposed a bill to limit payments to hospitals, the hospital cost containment bill. The hospital industry, concerned that the bill would be enacted into law, mounted a voluntary effort to hold down hospital spending. During that period we had the slowest rate of growth in national health expenditures we've had over this long period—2.5 percent a year annual rates of increase in total health spending.

The hospital cost containment bill was defeated in November 1979, and hospital spending and total health spending shot up again. In the so-called competitive market era in the early Reagan years from 1981 to 1983, we again experienced 6 percent annual rates of increase in total health spending—real health spending.

In October 1983, we moved to a new system of paying hospitals under the medicare program, but we still experienced rates of increase of over 5 percent a year in real terms in total health spending.

So if we look at the pattern over these different periods shown in chart 1, a striking picture emerges. There are really two periods that stand out as slower rates of increase than the typical 6 percent or 5 or 7 percent a year, and those were the periods of the Nixon controls when we had mandatory controls on the health sector—in fact, on the entire economy—on wages and prices, and also in that Carter period where the hospitals were worried that there would be mandatory controls on total expenditures.

I've also supplied in chart 2 the same sort of analysis of the trends in medical care prices over and above increases in the consumer price index and again we see very rapid rates of increase in medical care prices in the medicare-medicaid period. During the Nixon stabilization program, medical care prices actually went up more slowly than the overall consumer price index. When the controls were lifted in 1974, we again had a big surge in medical care price inflation—a 3-percent annual rate of increase. During the Carter period, again medical prices went up somewhat less slowly than the consumer price index, and then in the competitive market era, again a major surge in the medical care price inflation relative to the rest of the economy.

COST CONTAINMENT STRATEGIES

It seems clear to me that the reasons for our rapid rate of both expenditures and prices is the lack of either effective competition in the health care marketplace or an effective public policy to contain cost increases.

Where we have tried mandatory wage and price controls, indeed where we've even threatened them, we've had some slowdown in health expenditures. If we look to the States, those States that have tried State rate-setting systems, mandatory limits, for example, on hospital budgets, have also had a good performance in terms of cost increases, going up about 3 percent a year less than in those States: New York, New Jersey, Massachusetts, and Maryland, for example, have had those kinds of systems and they've had much slower rates of increase in hospital spending than other States.

Medicaid is an example of a cost containment program that's probably been too effective holding how much you pay to such a low level that many physicians don't participate in the program. That's starting to be a problem even on the hospital side since medicaid hospital payment rules broke off from medicare payment rates in 1981.

Employer plans have had some impact, as Secretary Califano indicated, particularly in scrutinizing hospital admissions. I think some of the downturn in hospital admissions of the nonelderly in the 1980's could be linked to some of the utilization review mechanisms in private health insurance plans. HMO's have had a record of having a lower level of cost—10 to 40 percent below other systems of care—but also fairly rapid rates of increase over time, so it seems to be a one-time shift in saving. So that's an important but limited solution, since we only have about 8 percent of our population interested in enrolling in HMO's.

I think the main lesson that we've learned is that if you do nothing at all, these costs will simply skyrocket at intolerable rates.

NEED PROVIDER PAYMENT REFORM

What can we do in the future? The single most important thing we could do in the future is to change the way we pay hospitals and physicians, to enact comprehensive provider payment reform that affects all patients, not just medicare beneficiaries.

The medicare hospital payment system that came into place in 1983 was a step in the right direction, but I think in the longer term you can't hold down medicare and let the private rates go out of sight. You really need a unified policy that applies to both public and privately insured patients.

On the physician side, we've done nothing and we've had even more rapid increases in part B of medicare than in part A—17 percent a year annual rates of increase for the last 10 years. Here, I would very much recommend that we adopt a fee schedule in medicare with the relative fees being based upon the relative resource costs of providing those services as the Physician Payment Review Commission, on which I serve that was established by the Congress, has recently recommended.

The point, though, is that it's not enough just to control the fee that you pay physicians. You have to worry about the volume of services. So I think we need a system of linking the rate of increase in allowable fees to total expenditure performance in relation to the gross national product. In charts 3 to 8, I have provided projections of what would happen to the future course of real health spending if we were to really put a lid on rates of increase in hospital and physician expenditures.

Instead of going to 15 percent of GNP by the year 2000, we could hold it to about 12.5 percent of GNP, so you could make a difference if you could just hold total expenditures to inflation plus 3 percent a year on top of inflation. These examples are illustrative. You would want to watch what was happening to the quality of health care and the health performance of the system, but as we'll learn from a later panel, other countries have been successful in holding spending to a much lower fraction of GNP and have had very good quality of care and health status outcomes.

I think the future course of our health system is not immutable. That's the main thing I want to leave with you. It's within our power to shape future trends in health expenditures and to assure that health gains commensurate to our investment in the health care sector are achieved. The solution to doing this is not mysterious. Adequate evidence exists that reforming the way in which health care providers are paid can have a major impact on health expenditure performance. What we need is the resolve to proceed. Thank you.

[The prepared statement of Ms. Davis, together with charts, follows:]

PREPARED STATEMENT OF KAREN DAVIS

THE FUTURE OF HEALTH CARE IN AMERICA: CONTROLLING THE FUTURE GROWTH IN HEALTH CARE EXPENDITURES

Thank you, Mr. Chairman, for this opportunity to testify on the future of health care in America. Health care spending has risen more rapidly than the Gross National Product for decades. Projections to the year 2000 suggest that by the turn of the century the health sector will consume 15 percent of the nation's total resources. While the U.S. has experienced major improvement in the health status of its people, many question whether health spending is yielding commensurate benefits in terms of improved health or quality of life for Americans.

Today, I am pleased to share with the Committee my own analysis of past trends in health expenditures, point to those attempts to contain rising expenditures which have been relatively more effective, and suggest ways in which the future growth in health spending might be slowed.

I. National Health Expenditures

A. Trends: 1950-1988

National health expenditures rose sharply throughout the period from 1950 to 1988. In 1950 the nation spent $12.7 billion on the health sector; by 1988 national health spending is estimated to increase to $540 billion. In other words the nation spent a billion dollars every month on health in 1950; by 1988 it will spend a billion and a half dollars a day. Translated into personal terms, the nation spent $80 per person in 1950; by 1988 it spent $2,136 per man, woman, and child on health.

Throughout this period spending on health outpaced the rest of the economy. Health spending as a percent of the Gross National Product has increased steadily from 4.4 percent in 1950 to 11.5 percent in 1988. As more of the nation's income was going for health care, relatively less was left over for food, housing, and other non-health care goods and services. Health spending has increased about 3 percentage points per year faster than the rest of the economy.

B. Real Growth in National Health Expenditures

Trends in the health sector are partially dependent on general trends in the economy. Not surprisingly, during periods of overall price inflation, expenditures in the health sector rise more rapidly. What is important in an analysis of health care cost increases is the pattern of increases over and above increases that can be attributed to economy-wide inflation. The real rate of growth in national health spending averaged 5.9 percent annually over the period from 1950 to 1988.

C. Trends in National Health Expenditures by Selected Time Periods

Breaking the trends in national health expenditures into different periods of time related to major shifts in health financing policy yields interesting insights. Seven time periods are of particular importance:

- Growth in Private Health Insurance Period -- 1950-1965
- Early Medicare and Medicaid Period -- 1966-1971
- Economic Stabilization Program -- 1972-1974
- Post-Economic Stabilization Program -- 1975-1977
- Carter Hospital Cost Containment Bill and the Hospital Industry Voluntary Effort -- 1978-1980
- The Market Era -- 1981-1983
- Medicare Prospective Payment -- 1984-1986.

Chart 1 shows the annual rate of increase in real national health expenditures over the 1950 to 1986 period. Real national health expenditures increased most rapidly during periods of expanding health insurance coverage or following the relaxation of mandatory or voluntary controls on the health care sector. By far the slowest rates of increase in real health care expenditures occurred during periods of mandatory limits on hospital payments or the threat of such mandatory limits.

During the Economic Stabilization Program, real increases in expenditures averaged 4.6 percent annually; and under the threat of the Carter Hospital Cost Containment bill with the hospital industry Voluntary Effort response, real increases averaged 2.4 percent.

By contrast the highest rates of increase were during the periods of expanded public and private insurance coverage from 1950 to 1971, following the Economic Stabilization Program, and following the defeat of the Carter hospital cost containment bill in late 1979. Real rates of increase in health expenditures continued to rise rapidly during the first three years of Medicare prospective payment.

II. Medical Care Prices

Trends in prices charged for individual health care services have generally been of less interest than total expenditures -- in large part because what the patient is concerned about is the total payment for care, not what he or she is billed for any one of a number of services. It is the aggregate of expenditures that affect health insurance premiums and taxes required to support Medicare, Medicaid, and other publically-financed health care services. Nevertheless, trends in prices of individual services provide some insight into the extent to which rising expenditures reflect a greater rise in health care prices than in prices in the economy as a whole -- at least suggesting that unconstrained health care price increases are part of the explanation behind rising health expenditures.

A. Medical Care Prices

Chart 2 presents data on annual rates of increase in the medical care and physicians' services price indices relative to the Consumer Price Index. It reveals a pattern somewhat similar to that observed for real changes in national health expenditures. The years following the introduction of Medicare and Medicaid were years of high rates of increases in health care prices relative to the economy-wide trend. From 1965-1971 medical care prices increased 1.8 percent faster than the CPI and physicians' services prices increased 2.3 percent faster than the CPI. Under the Economic Stabilization Program in 1972-1974, the health sector had a slower rate of increases in prices than other sectors. Following the lifting of ESP controls, medical care prices shot up again. Average annual increases over the period 1975-1977 were 3.2 percent for all medical care and 3.9 percent for physicians' services. Medical care and physicians' services price increases were lower than general inflation in the Carter period, from 1978-1980, and have been several percentage points above general inflation during the 1980s.

III. Major Lessons from Past Experience

Rapid rates of increase in health care costs have characterized the U.S. health care sector for the past 35 years. The reason for these increases is clear -- the lack of both effective competition in the health care marketplace and effective public policy to constrain cost increases. The consequences are equally clear -- difficulty in obtaining care for those without health insurance, major financial burdens on those with inadequate health insurance, high employee health benefit costs that increase the cost of American products and place them at a competitive disadvantage in international markets, and heavy tax burdens resulting from Medicare and Medicaid outlays financing health care for the elderly, disabled, and many of the nation's poor.

Of the cost containment initiatives which have been tried, the statistical evidence on effectiveness in containing costs is clear. Total health care spending increased at a significantly slower rate during the Nixon Economic Stabilization Program and during consideration of the Carter hospital cost containment bill. Periods characterized by freely functioning market forces were characterized by rapid rates of increase in health care costs.

State rate-setting programs introduced in the mid-1970s and applying to all hospital patients on a permanent basis have also been quite effective in restraining cost increases. States with rate-setting have averaged annual increases in hospital costs that have been three percentage points lower than states without such programs. Over a ten year period, this differential cost performance has had an important cumulative effect. By 1984, hospital costs per capita would have been at least 87 percent higher in states with rate-setting policies had such policies not been in effect.

Medicaid is an example of a cost containment initiative that has been effective at containing costs, but at the expense of other objectives, such as assuring access to quality health care for the poor and assuring patients the opportunity to choose their own physician. Medicaid has lowered hospital payment rates below the rate paid by Medicare, and considerably below the rate hospitals receive for the care of privately insured patients. As a result, admissions of Medicaid patients to hospitals have been declining. Physician participation rates in Medicaid are quite low in many states.

Employer health insurance plans appear to have contributed to falling hospital admissions for workers and their dependents. Increased patient cost-sharing and direct measures to curb utilization of hospitals undoubtedly account for much of this downward trend. However, these are one-time reductions in utilization. In future years hospital costs can be expected to increase at historical rates. Increased patient cost-sharing shifts the financial burden of higher health care costs onto workers and their families -- which is unacceptable to them in the long term and has limited potential as a future long term strategy.

Health maintenance organizations have grown markedly in the last 10 years, and now enroll eight percent of the U.S. population. Given numerous barriers to HMO growth, it seems unlikely that more than one-fourth of the population will choose to receive their care from HMOs.

While limited as a national solution to rising costs, however, evidence indicates that HMOs have lower costs than care rendered in the fee-for-service sector. While HMOs have lower costs than traditional alternatives, the rate of increase in HMO costs per person are quite similar to trends over time in the fee-for-service sector. Therefore, it seems that HMOs may be more capable of achieving a one-time downward shift in costs than a sustained slowing of costs.

Doing nothing has been the least effective approach to containing health care costs. The health sector has exhibited a strong and persistent tendency to outstrip the rest of the economy in growing expenditures except during periods of direct intervention to contain cost increases. The health care cost problem will neither solve itself nor be easily solved. However, the many initiatives that have been instituted do provide valuable lessons and point the way toward an effective long-term policy toward limiting increases in health care costs.

IV. Changing the Future Course of Health Spending

The single most promising method of containing rising health care expenditures is reform of payment methods for hospitals and physicians. Such reform should both give hospitals and physicians an incentive to improve efficiency and productivity and give the government the ability to set limits on the rate of growth in payment rates.

The Medicare prospective payment system for hospitals is a step in the right direction. It permits the government through legislative or regulatory action to determine the rate of increase in Medicare payments for hospital patients. In recent years the Congress has acted to hold payment increases below hospital market basket inflation rates. However, in the longer term holding down the rate of increase in Medicare payments for care of the elderly and disabled, while permitting payment rates for privately insured patients to continue to rise at rapid rates, will lead to a major disparity between payment rates for publically and privately financed patients. Hospitals can be expected to begin to discriminate against Medicare patients, as they have against Medicaid patients, and provide reduced access or lower quality or substandard care to such patients.

Effective hospital cost containment over the longer term must move toward a system that embraces both privately insured patients as well as Medicare and Medicaid beneficiaries. The Medicare prospective payment system could be extended to all payers. Alternatively, a nationwide system of hospital payment based on the experience of states with rate-setting programs could be adopted. Continuing a fragmented, partial approach, however, is unlikely to be effective in the long-term in inducing genuine improvements in hospital efficiency and productivity.

Very little has been done to address rapidly rising expenditures for physician services. Annual rates of increase in Medicare Part B expenditures have averaged over 17 percent for the last ten years. This reflects an increase in physician prices over and above general inflation. More significantly, however, it reflects an increase in the number and complexity of services for which physicians bill.

The most important initial step that could be taken is to establish a fee schedule for the payment of physicians under Medicare and Medicaid. The relative prices of physician services should be based on the relative resource costs of providing these services -- as recently recommended by the Physician Payment Review Commission established by the Congress.

The critical factor affecting future physician expenditure growth, however, is the decision regarding the rate of increase in the level of approved fees and whether physicians will be required to adhere to these fees. Annual increases in the fee schedule should be pegged to achieve increases in total physician expenditures no greater than increases in the Gross National Product. This could be achieved through a formula that takes into account increases in volume of services billed over the previous year in establishing the allowable rate of increase in fees for the upcoming year. To achieve genuine containment of overall expenditures, physicians would need to be required to accept the allowed fee as full payment and not be permitted to charge patients fees in excess of the allowable fee.

Efforts should be made to encourage private insurers and Medicaid to follow a reformed Medicare physician payment system-- to avoid payment rates that are higher for privately insured patients or so low for Medicaid patients as to discourage physician participation.

Restricting the growth in health expenditures through a unified, comprehensive provider payment policy would have a major impact on the future trend in health expenditures. Charts 3 through 8 illustrate the impact in the year 2000 of holding expenditures to a rate of growth 3 percentage points in excess of general economic inflation.

Real national health expenditures would increase from $540 billion in 1988 to $770 billion in 2000 -- a $200 billion savings in 1988 dollars from what would otherwise occur. That is, the future increase in real national health spending could be cut in half. On a per person basis, spending would increase from $2136 in 1988 to $2,800 by the turn of the century, rather than $3500. Health expenditures as a percent of Gross National Product would be held to 12.2 percent in 2000 rather than the currently projected share of 15.2 percent.

Such constraint would also have a major impact on the federal budget. The federal government would save almost $90 billion in the year 2000 alone in constant 1988 dollars. Cumulative savings between now and the year 2000 would be about $350 billion -- clearly a major contribution to reducing future federal budget deficits.

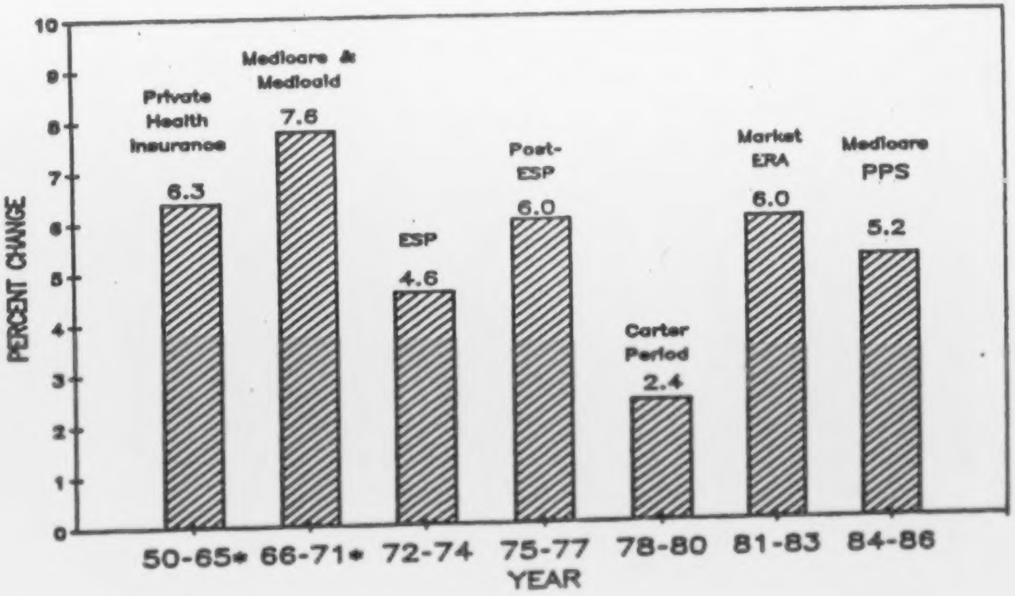
These projections are illustrative. They assume that it would be possible politically to institute and maintain such spending restraint. They assume that such restraint could be achieved without seriously compromising the health of the population or lowering the quality of health care. Clearly, careful monitoring of our experience would be required as we proceeded. Some reassurance is provided, however, by the performance of other industrialized nations that have succeeded in holding their health spending to the 7 to 9 percent Gross National Product range through just such measures -- while continuing to experience high levels of health status and low rates of mortality.

The future course of our health care system is not immutable. It is within our power to shape future trends in health expenditures and to assure that health gains commensurate to our investment in the health care sector are achieved. Nor is the solution mysterious or unknown. Adequate evidence exists that reforming the way in which health care providers are paid can have a major impact on health expenditure performance. What is needed is the resolve to proceed.

Thank you.

CHART 1

AVERAGE ANNUAL PERCENT CHANGE IN REAL
NATIONAL HEALTH EXPENDITURES, 1950-1986

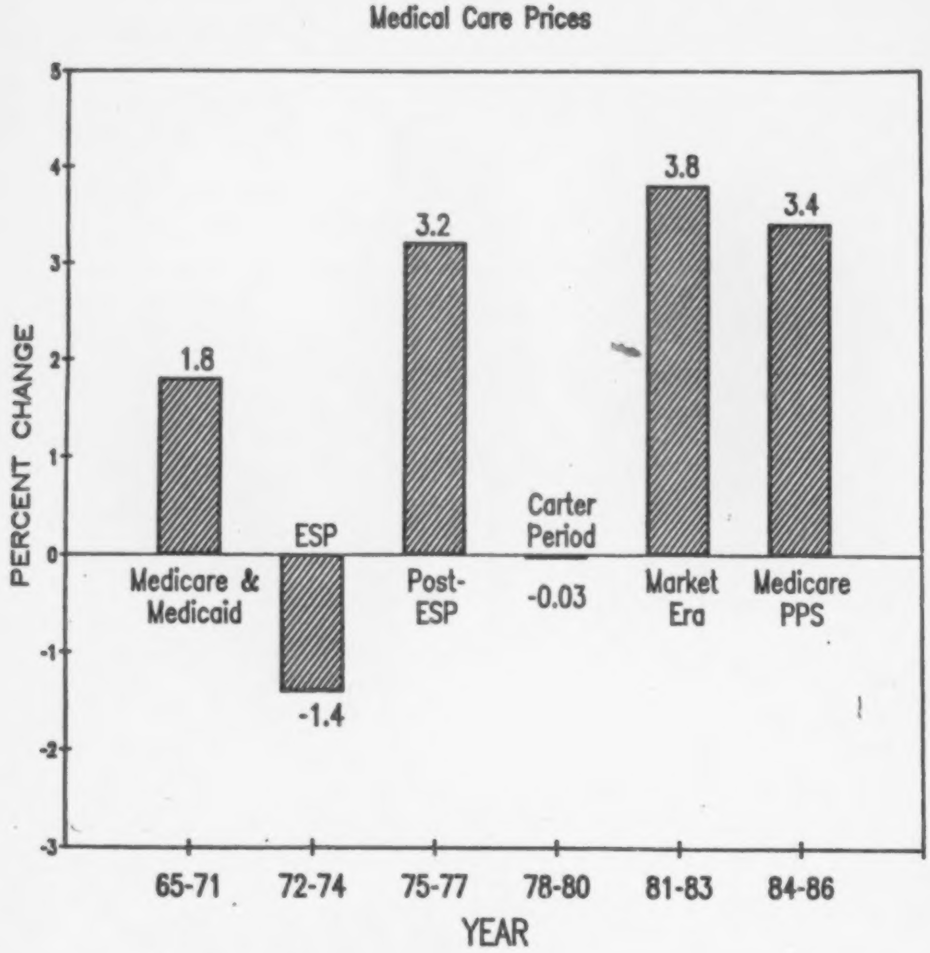


*Annualized

Source: Calculated by The Johns Hopkins University based on data from HCFA, 1987 and Census Bureau, 1987.

CHART 2

AVERAGE ANNUAL RATES OF INCREASE IN MEDICAL CARE PRICES LESS INCREASES IN THE CONSUMER PRICE INDEX, 1965-1986

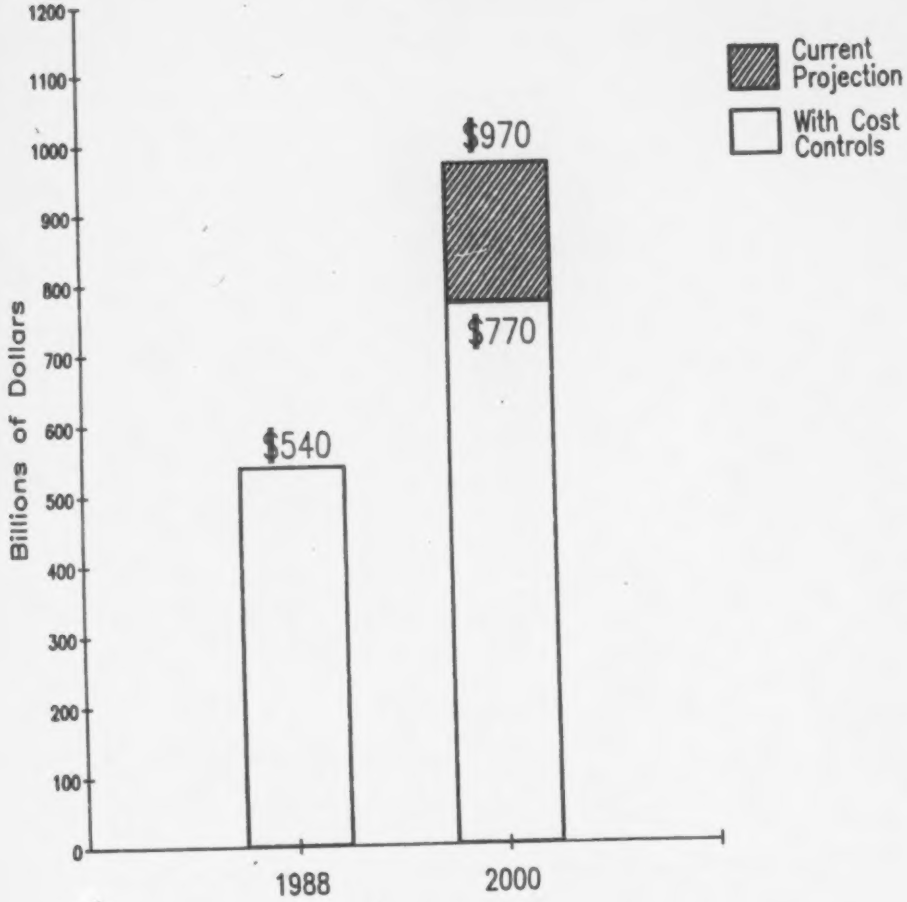


*CPI for all urban consumers

Source: Calculated by The Johns Hopkins University based on data from HCFA, 1987 and Census Bureau, 1987.

CHART 3

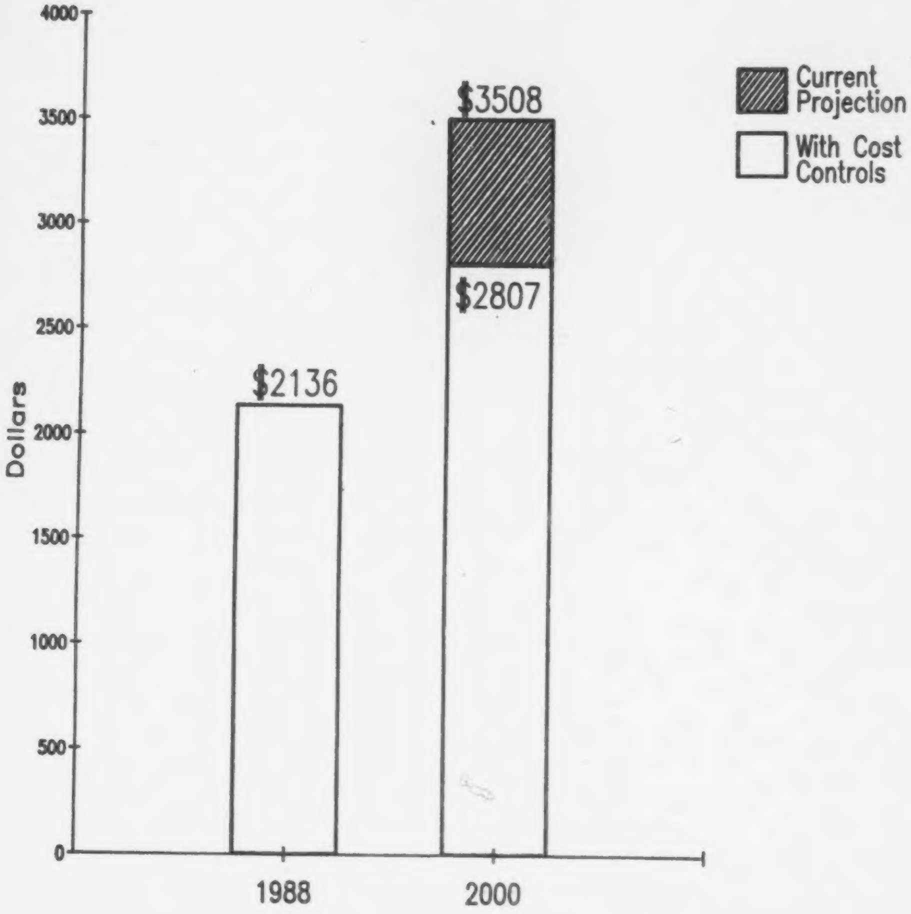
Real National Health Expenditures in Billions
(1988 dollars)



Source: Calculated by the Johns Hopkins University based on HCFA projections. Cost Control projection assumes an annual rate of increase equal to 3% above inflation.

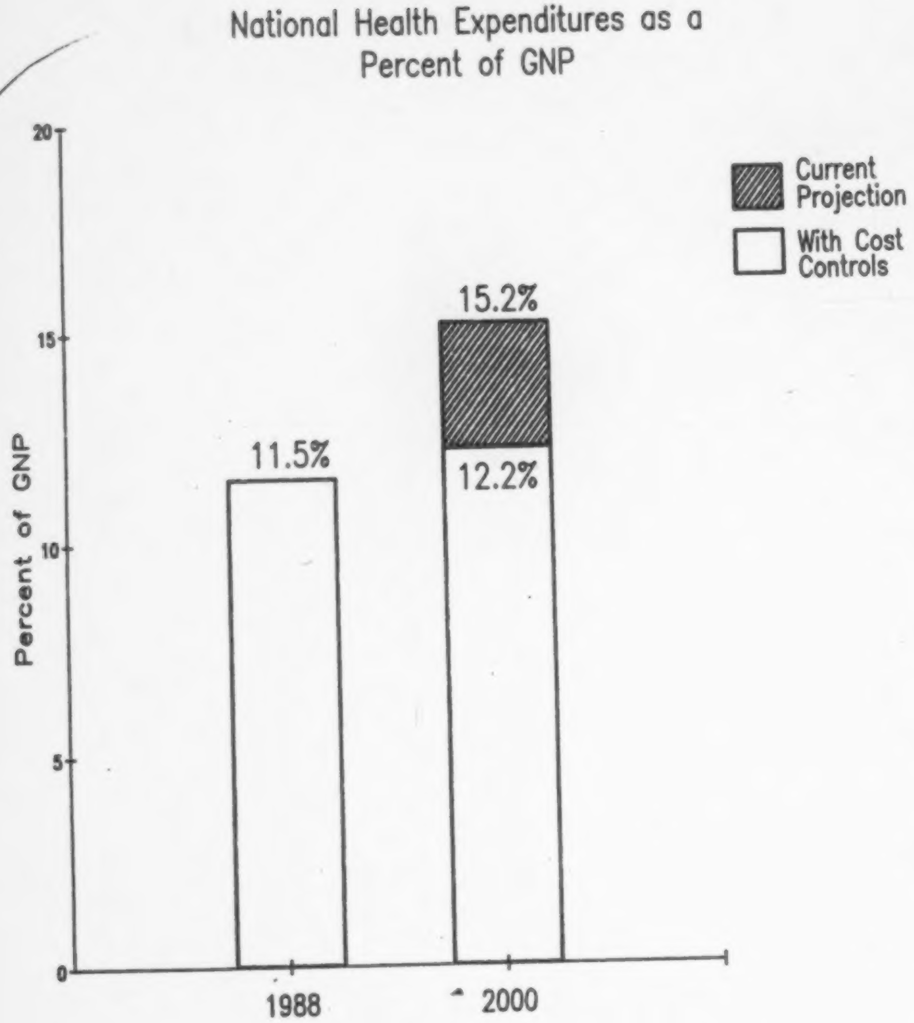
CHART 4

Real National Health Expenditures Per Capita
(1988 dollars)



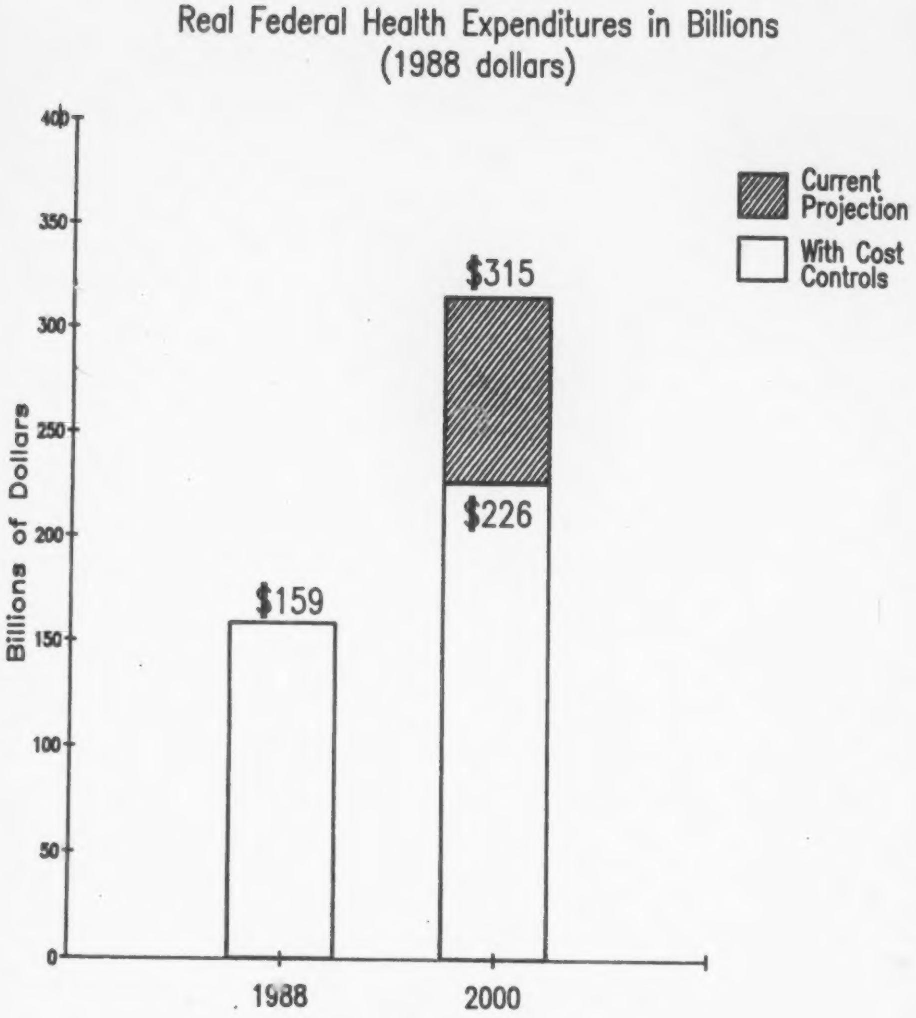
Source: Calculated by the Johns Hopkins University based on HCFA projections. Cost Control projection assumes an annual rate of increase equal to 3% above inflation.

CHART 5



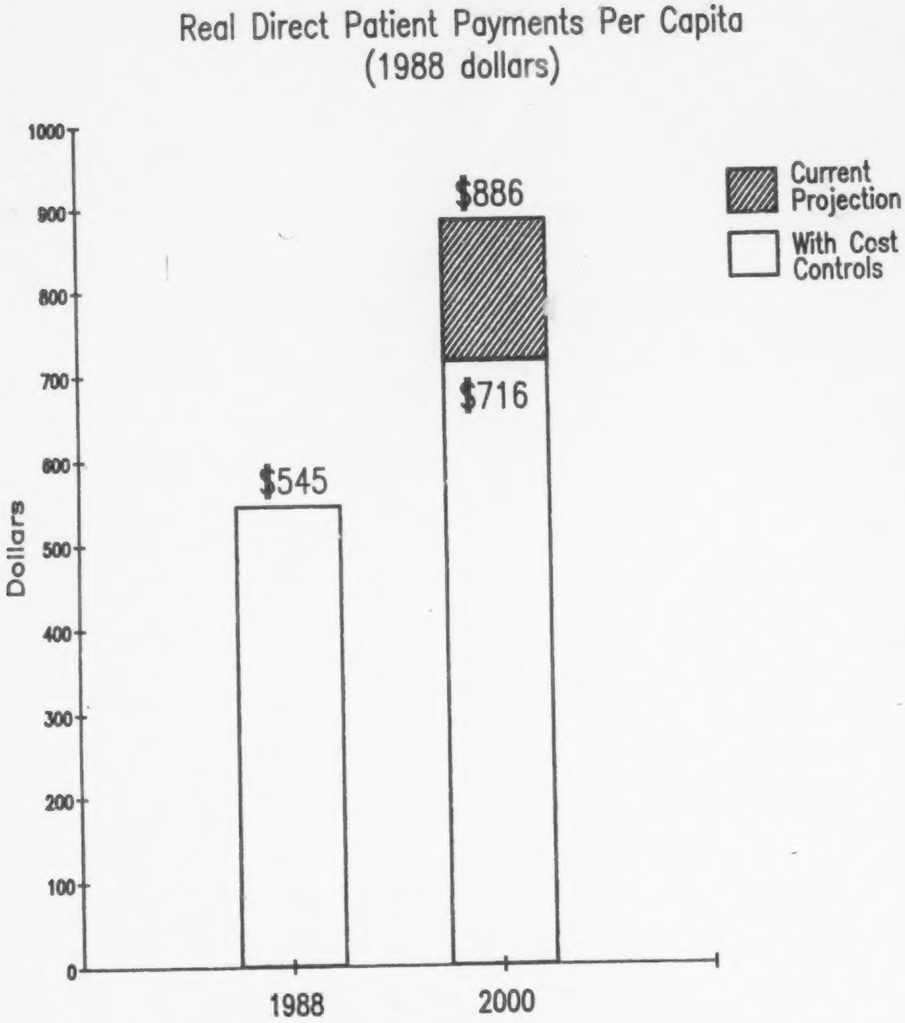
Source: Calculated by the Johns Hopkins University based on HCFA projections. Cost Control projection assumes an annual rate of increase equal to 3% above inflation.

CHART 6



Source: Calculated by the Johns Hopkins University based on HCFA projections. Cost Control projection assumes an annual rate of increase equal to 3% above inflation.

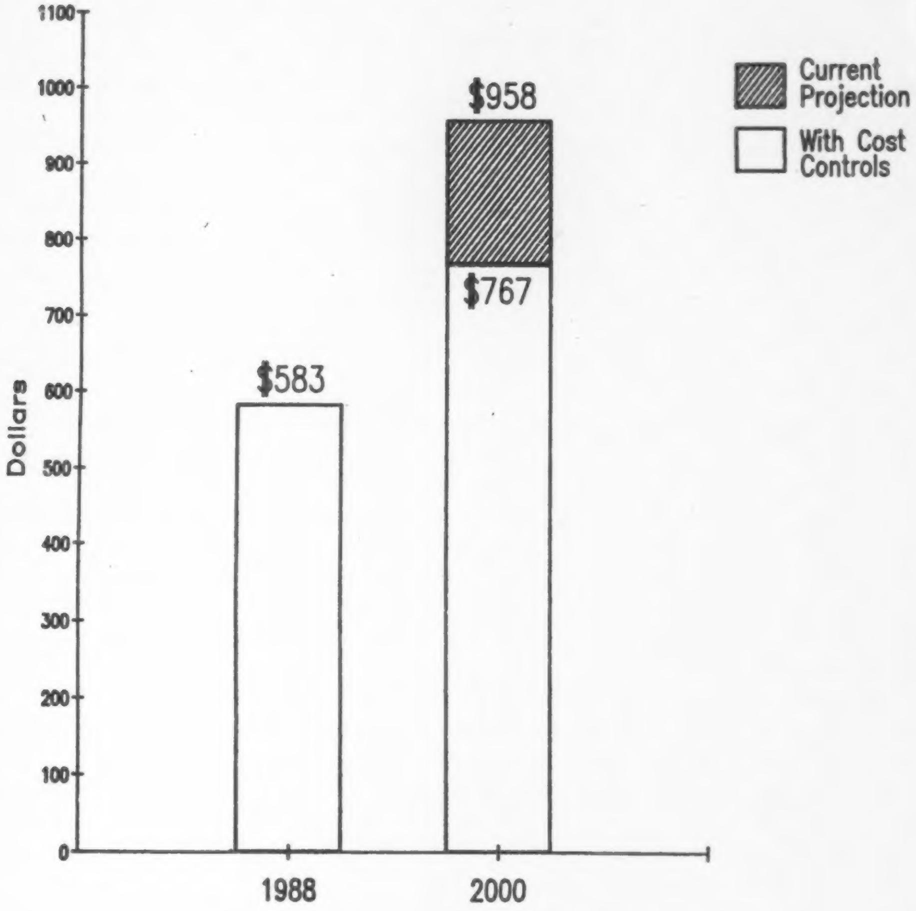
CHART 7



Source: Calculated by the Johns Hopkins University based on HCFA projections. Cost Control projection assumes an annual rate of increase equal to 3% above inflation.

CHART 8

Real Private Health Insurance Expenditures Per Capita
(1988 dollars)



Source: Calculated by the Johns Hopkins University based on HCFA projections. Cost Control projection assumes an annual rate of increase equal to 3% above inflation.

Representative SCHEUER. Thank you very much, Ms. Davis. Professor Rice, please proceed.

STATEMENT OF DOROTHY P. RICE, PROFESSOR, DEPARTMENT OF SOCIAL AND BEHAVIORAL SCIENCES AND INSTITUTE FOR HEALTH AND AGING, UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

EXPENDITURE TRENDS

Ms. RICE. Thank you, Mr. Chairman. It's an honor and privilege to testify before the Joint Economic Committee.

Representative SCHEUER. It's an honor for us to have you, Ms. Rice.

Ms. RICE. And it's been a special privilege to have assisted you, the chairman of these hearings, and your staff in the development of these very important hearings.

Representative SCHEUER. We're very grateful for your insight and your input.

Ms. RICE. I won't repeat some of the numbers that have been already stated and I am sure you're going to be hearing more of them. I hope that my prepared statement will be included in the record.

Representative SCHEUER. Of course it will.

Ms. RICE. There is one figure that I don't think has been used, that health care spending in 1986 amounted to over $1,800 for every man, woman, and child in America, rising from $205 per capita in 1965, and that by the year 2000 the figure projected by the Health Care Financing Administration is $5,550 per person in the United States.

I also want to point out that in the last year for which we have good data, in 1986, health spending increased 8.4 percent from the previous year and while this annual rate of increase is lower than in the 1970's, it's still much faster than the 5.2 percent increase in the GNP.

Since the enactment of medicare prospective payment system in 1983, expenditures for physician services rose at a higher annual rate than hospital care spending—10.4 percent compared with 7 percent, respectively—and I'll go back to this.

CONSEQUENCES OF EXPENDITURE TRENDS

What concerns me most are the consequences of the continued rise in health care costs. We've seen that private health insurance premiums have recently jumped at unprecedented rates—20 to 30 percent. Cost sharing by medicare beneficiaries has increased significantly. In 1988, medicare part B premiums rose by an astronomical 38.5 percent and the ranks of the uninsured are growing. The estimates range from 31 to 37 million persons in this country that have no medical insurance coverage and of equal concern are the many millions whose existing insurance coverage is inadequate.

Older people are being discharged from hospitals quicker and sicker. One-third of the near-poor elderly are reduced to poverty by their out-of-pocket payments for medical care and many States have raised their requirements for medicaid eligibility and reduced benefit payments.

COMPONENTS OF EXPENDITURE TRENDS

What are the factors associated with the increase in expenditures? Very briefly, over the long run, the growth in private health insurance and prepayment plans increased the demand for services; increased public support for medical care for the aged, disabled and poor; increasing population; and a rising proportion of the elderly who are at risk for chronic illnesses requiring more medical care; a shift from acute care to more expensive long-term care illnesses; improvements in growth of high cost technology; higher wages and salary costs in the health industry; and growth in the supply of health manpower and facilities.

The growing burden on the economy of medical care spending results from all the above factors, as well as the higher medical care prices relative to general prices, and a slowdown in the general economy with continued growth in the health sector. So that in the 21-year period, 1965 to 1986, GNP rose at about three-fourths of the annual rate of health expenditures, 8.9 percent compared to 12.1 percent, respectively.

PROVIDER PAYMENT REFORMS

A variety of policy issues that we've already discussed have emerged during the last two decades to deal with rising health care costs. National concern about the cost of health care produced an array of options ranging from increased regulation to unfettered competition from which to choose. Since spending for hospital care and physician services comprise more than two-thirds of the personal health care expenditures, my testimony focuses on hospital and physician reimbursement policies, although many others are equally important in the context of rising costs.

The cost-based reimbursement of hospitals had been the practice used by Blue Cross under private health insurance prior to the enactment of medicare in 1965 and this was continued when medicare went into effect. But the cost basis for paying hospitals provide no incentives for efficiency and economy and no incentives to control costs.

Finally, in October 1983, we did see the introduction of the prospective payment system under medicare. During the period from 1965 to 1983, the annual rate of increase in hospital spending amounted to 12.9 percent. In some years they went as high as 15 to 16 percent. We did see a reduction in the rate of increase from 1983 to 1986 and the annual rate was reduced to 7 percent compared with the 12.9 percent in the previous 21-year period.

Policy experts agree that the prospective payment system may contain costs and reduce the rate of increase in medicare spending, but concern is expressed that it restricts access to health care and adversely affects the quality of care by premature discharges of elderly people.

The hospital industry has responded to the new payment system by massive cuts in personnel and aggressively negotiating lower prices for suppliers. We've seen admissions reduced but hospitals began treating patients in less costly, more profitable ways, and many big and urban institutions of both nonprofit and for-profit hospitals have actually been financially thriving. A major concern is that today's profits may be at the expense of the quality of patients' care.

Most importantly, cost-sharing borne by medicare beneficiaries has increased substantially as a result of the prospective payment system. In 1983, beneficiary deductibles and coinsurances accounted for about 8 percent of payments to hospitals for inpatient services and in 1987 the proportion increased to 9.2 percent.

A few words about physician reimbursement. Physician reimbursement has been based on reasonable charges and there have been some changes in medicare physician reimbursement. Reasonable charges were frozen for a 15-month period beginning July 1, 1984, and a new category of provider, the participating physician, was established. The participating physician agrees to accept all services on assignment in exchange for certain advantages, but only 30 percent of the physicians who serve medicare patients signed these participation agreements. The freeze ended on May 1, 1986, for participating physicians but remained in effect until January 1, 1987, for nonparticipating physicians.

Research has shown that freezing physicians' fees in the past has not successfully constrained total reimbursements under public programs. Physicians have historically responded to fee controls by billing for a larger number of more complex services. Karen Davis is on the Physician Payment Review Commission and they are studying the problem right now and have expressed concern about the need for an effective strategy to moderate the rate of growth of expenditures without a threat to access to quality of care.

In conclusion, it's clear that the overall rate of increase in health care expenditures has declined in recent years, but there has been a reversal in the rate of growth of spending for hospital care and outlays for physician services, with greater increases for the latter. There has been a shift to physician outpatient care and to physician services.

The implementation of PPS for hospital payments under medicare clearly has impacted payments systems under public and private programs.

We have seen a variety of options being used in the private sector, PPO's——

Representative SCHEUER. Excuse me, Ms. Rice. If you could use the real words.

NEED COMPREHENSIVE SOLUTION

Ms. RICE. The preferred provider organizations are just one alternative that have been used, but the objective is clearly to obtain the lowest rate possible in fostering competition. We know that competition hasn't worked in the health sector. I agree with Karen Davis that the policymakers continue to search for piecemeal approaches and stopgap measures to hold down the cost of medical care. In the long run, we as a nation must face the facts that the different payment systems under different public and private programs tend to shift the burden of cost from one population group to another, from one provider to another. The magnitude of our cost problems and their solution require a Federal commitment to a program of national health care to protect all Americans from the devastating health care costs.

Thank you, Mr. Chairman.

[The prepared statement of Ms. Rice, together with figures, follows:]

PREPARED STATEMENT OF DOROTHY P. RICE

Mr. Chairman, it is an honor and privilege to testify before the Joint Economic Committee on trends in health care expenditures at these hearings on the Future of Health Care in America.

I am Professor in Residence in the Department of Social and Behavioral Sciences and in the Institute for Health & Aging, University of California, San Francisco. The views that I express today are my own and do not necessarily represent those of my employers.

My observations are based on thirty years as a career civil servant, most of which were spent in the Social Security Administration and the Public Health Service. In the early 1960s, I developed the methodology for estimating the National Health Expenditures. Although the Health Care Financing Administrative staff is now using more sophisticated techniques for their annual estimates and projections, the basic methodology has remained the same. Prior to my leaving the Federal Government in 1982, I was Director of the National Center for Health Statistics, the agency in the Public Health Service that has the responsibility for the collection, analysis, and dissemination of statistics on the health of the nation. Since 1982, I have been engaged in health services research at the University of California, San Francisco. During this period, my research has focused on cost of illness studies, the impact of the aging of the population on the medical care system, and the burden of chronic illness.

My testimony today will focus on the trends in health care expenditures in the United States and the factors associated with their increases at rates faster than the growth in the Gross National Product (GNP) and inflation. The continued and persistent rise in medical care spending during recent years has generated much interest, attention, and concern as it has consumed a growing share of the GNP.

What are the Facts?

- During the 21-year period, 1965 to 1986, medical care spending rose from $42 billion to $458 billion, while its share of GNP rose from 5.9 percent to 10.9 percent (Figure 1)

- Health care spending in 1986 amounted to $1,837 for every man, women, and child in America, rising from $205 per capita in 1965 (Figure 2).

- Projections to the year 2000 made by the Health Care Financing Administration are that health expenditures will rise to $1.5 trillion and 15 percent of GNP (Figure 3). Spending per capita is projected to rise from $1,837 in 1986 to $5,550 in 2000.

- In 1986, health spending increased 8.4 percent from the previous year. While this annual rate of increase is lower than in the 1970s, it is still much faster than the 5.2 percent increase in the GNP (Figure 4).

- After adjustment for inflation, personal health care spending rose 172 percent from 1965 to 1986.

- Since the enactment of the Medicare Prospective Payment System (PPS) in 1983, expenditures for physicians' services rose at a higher annual rate than hospital care spending, 10.4 percent compared with 7.0 percent, respectively.

What are Some of the Consequences of Continued Rising Health Cost?

- Private health insurance premiums have recently jumped at unprecedent rates -- 20 to 30 percent.

- Cost sharing by Medicare beneficiaries has increased significantly. In 1988, Medicare Part B premiums rose by an astronomical 38.5 percent.

- The ranks of the uninsured are growing -- estimates range from 31 million to 37 million Americans, who have no medical coverage. Of equal concern are the many millions whose existing insurance coverage is inadequate (U.S. House of Representatives, 1986).

- Older people are being discharged from hospitals quicker and sicker.

- One-third of the near-poor elderly are reduced to poverty by their out-of-pocket payments for medical care.

- Many states have raised their requirements for Medicaid eligibility and have reduced benefit payments.

- Many acute and chronically ill persons are slipping through the "safety net" as economic pressures on the medical care system mount.

What are the factors behind the continuing increase in medical care spending and the growing burden on society? Several broad factors can be identified:

- population growth,

- inflation,
- product change, and
- increase in per capita utilization of medical care.

This simple list, however, does not capture the enormous changes that have taken place in the organization, delivery, and funding of medical care services. Additional economic, medical, and demographic changes also affecting the increased demand for medical care services and the rise in spending include:

- growth in private health insurance and prepayment plans,
- increased public support of medical care for the aged, disabled, and poor,
- increasing population and a rising proportion of elderly,
- a shift from acute care to more expensive long-term illnesses,
- improvements and growth of high-cost technology,
- higher wages and salary costs in the health care industry, and
- growth in the supply of health manpower and facilities.

The growing burden on the economy of medical care spending results from all of the above factors as well as higher medical care prices relative to general prices and a slow down in the general economy with continued growth in the health sector.

Thus, in the 21-year period, 1965-86, the GNP rose at about three-fourths the annual rate of the health expenditures - 8.9 percent compared with 12.1 percent, respectively (U.S. HCFA, 1987).

Rising prices for medical care services have been the primary force in the rise of personal health care spending in recent years. Between 1950 and 1965, price inflation accounted for 43 percent of the increase; between 1965 and 1986 it accounted for 66 percent of the increase. The effect of population growth has diminished substantially from the first period to the second. Increases in intensity of use and quality changes accounted for a larger share of the increase in the first period as summarized in Figure 5.

POLICY ISSUES

A variety of policy issues have emerged during the last two decades to deal with the rising health care costs. These range from the concern about equity and access to medical care to questions of control of utilization and cost, efficiency in the delivery of care, and with increasing frequency, the efficacy of that care. National concern about the cost of health care has produced an array of options, ranging from increased regulation to unfettered competition from which to choose. Policies must be chosen carefully, however, to promote consumers' incentives for healthy behavior, adequate levels of health insurance coverage, and appropriate use of medical care services. Providers of medical care must also deliver quality medical care services efficiently at competitive prices. Since spending for hospital care and physicians' services comprises more than two-thirds of total personal health care expenditures, I will focus only on hospital and physician reimbursement policies, although many others are equally important in the context of the rising costs of medical care.

Hospital Reimbursement Policy. Cost-based reimbursement of hospitals had been the practice used by Blue Cross under private health insurance prior to the enactment of Medicare in 1965. The cost-basis for paying hospitals was a pass-through for third party payers, and Medicare adopted this payment system, in which there were no incentives for hospitals to control costs and no rewards for improving efficiency. Until October 1983, Medicare reimbursed hospitals for their "reasonable costs" of providing care, subject to a few limits and exclusions. During this period 1965 to 1983, the average annual rate of increase in hospital spending amounted to 12.9 percent.

The Social Security Amendments of 1983 marked a major departure from cost-based reimbursement by establishing the

Medicare prospective payment system. Beginning October 1, 1983, hospitals are paid a prospectively determined rate for each discharge. These rates are determined in advance and fixed for the fiscal period to which they apply. The basic features of the prospective payment system are as follows: patients are classified into one of 468 diagnosis-related groups (DRG) and the hospital is paid a fixed pre-determined payment per DRG. The DRG payment to each hospital varies depending on the hospital's location, the area wage rate, and the number of residents in training. Each of the 468 DRG's is constructed from statistical and clinical analysis of all cases treated, patient age and sex, treatment procedure, discharge status, and specific diagnosis.

Implementation of the new system was phased in over a 3-year period that began on October, 1983. In the first year, three-fourths of the payments to hospitals were based on their own cost experience in the base year and one-fourth based on the new Federal rates. By 1986, the new Federal DRG prospective payment system covered all hospital payments under Medicare.

The Administration has taken steps to assure quality of care under the new prospective payment system. The first step was the establishment of Peer Review Organizations (PRO's). Hospitals must contract with PRO's if they are to be paid under the new system. They review the validity of diagnoses, quality of care provided, the appropriateness of admissions, transfers, and discharges, and the nature of handling outlier cases. There is one PRO in each State and each has signed a contract with the Health Care Financing Administration indicating how it proposed to undertake these functions.

The law also provided for a review of the system by a Prospective Payment Commission (PROPAC) under the aegis of the Congressional Office of Technology Assessment. The Commission's charge is to advise on the setting the DRG payments, recalibrating or creating new ones, the adequacy of the rate increases built into the system, and coverage and technical issues concerning the DRG payment system. PROPAC issued three annual reports and a recent report that analyzes and evaluates the Secretary's final Medicare PPS regulations for fiscal year 1988. These reports have numerous recommendations, many of which have been revised or rejected by the Secretary of DHHS. Beneficiary and quality concerns have been expressed by PROPAC in each of its reports.

Although DRG's have been in place for a relatively short period of time, we have already seen significant effects as a result of this profound change in hospital reimbursement under Medicare. The rate of increase in hospital spending has been reduced significantly. From 1983 to 1986, the annual rate of increase was 7.0 percent compared with 12.9 percent for the previous 21-year period. Policy experts agree that this prospective payment system may contain costs and reduce the rate of increase in Medicare spending, but concern is expressed that it restricts access to health care and adversely affects the quality of care by premature discharges of elderly people, many of whom may need long-term care services (Meiners, et al, 1985 and Bunker and Schaffarzick, 1986). Follow-up care may not be guaranteed, and the medical needs of patients referred to nursing homes, home health care, and other forms of community care could be greater than providers are equipped to handle (Dolenc and Dougherty, 1985). A GAO survey of discharge planners across the nation reported that 97 percent had problems in placing Medicare patients in skilled nursing homes (Chelimsky, 1987).

In its first evaluation of the Medicare DRG prospective payment system, in February 1985, The U.S. General Accounting Office (1985) found that: elderly patients were leaving hospitals on the average 2 days earlier and in poorer states of health than prior to DRGs; earlier hospital discharge may have increased effective demand for post-hospital nursing home, home health and community services that are not equipped to deal with sicker patients; patients discharged from hospitals in need of "heavy care" or "high-technology" services were having problems of access to nursing homes; the costs of other federally funded programs, particularly Medicaid, insurers, and private payers (including patients and their families) would increase; and beneficiaries were confused about their Medicare benefits as a result of being told improperly to leave the hospital because their Medicare coverage has run out.

The hospital industry has responded to the new payment system by making massive cuts in personnel and aggressively negotiating lower prices from suppliers. Admissions and length of stay have been reduced. By 1985, length of stay fell to 7.3 days from 7.9 days in 1982 (U.S. NCHS, 1988). Hospitals began treating patients in less costly, more profitable ways. Many big and urban institutions, and both nonprofit and for profit hospitals, have been "thriving" (Waldholz, 1985). A major concern is that today's profits may be at the expense of the quality of patients' care (Feder, et al, 1987).

Most importantly, cost sharing borne by Medicare beneficiaries has increased as a result of PPS. In 1983, beneficiary deductibles and coinsurance accounted for about 8.0 percent of payments to hospitals for inpatient services; in 1987, the proportion increased to 9.2 percent (PROPAC, 1987). A 1986 Harris survey of hospital patients and other heavy users of health care services reported that half paid a larger proportion of their health care costs than they did three years earlier (EQUICOR, 1986). While it is clear that many changes in hospital care are taking place as a result of the changes in hospital reimbursement, it is not clear that the positive effects outweigh the negative ones. The rate of increase in hospital expenditures may have been reduced, but at what cost?

Physician Reimbursement. While hospitals control some of their costs through administrators' decisions about acquisition and maintenance of equipment, labor, and buildings, physicians are estimated to control 60 to 80 percent of hospital costs through their medical decisions about the use of these resources - whom to admit, how long the patient will stay, the quantity of ancillary services used, whether or not to perform surgery, etc. (Morreim, 1985). In making these decision, physicians are influenced by financial factors, especially third-party reimbursement rates. The amount paid by Medicare to physicians has a major impact on the number and type of services that beneficiaries receive and on the amount paid for each service.

Medicare's method of paying physicians is based on "customary, prevailing, and reasonable charges". The amount paid for each procedure is called the "reasonable charge." It represents the physician's actual charges as long as those charges do not exceed the physician's customary charges in the previous year or the prevailing charges of other physicians in the locality. After the beneficiary pays a $75 annual deductible, Medicare pays 80 percent of the reasonable charges for any service. The remaining 20 percent is the responsibility of the beneficiary, who may have supplementary private insurance that covers it. When the physician accepts "assignment", Medicare pays the physician directly. If assignment is not accepted, the physician can bill the patient for any additional amount over and above the reasonable charges and Medicare pays its share directly to the patient. Since this payment system was inherently inflationary, Medicare established an "economic index" in 1975 which limited the annual increase in prevailing charges.

There are at least two major problems in this method of physician reimbursement: first, beneficiaries are often liable for very large out-of-pocket payments when physicians do not accept assignment on expensive procedures. Second, it has not been successful in keeping total Medicare expenditures in line. While unit prices have been controlled by the economic index, quantity and intensity of services have been rising (Rice, 1985).

Several changes in Medicare physician reimbursement were enacted as part of the Deficit Reduction Act of 1984. Reasonable charges were frozen for a 15-month period beginning July 1, 1984 and a new category of provider -- the participating physician -- was established. The participating physician agrees to accept all services on assignment in exchange for certain advantages. About 30 percent of physicians who serve Medicare patients have signed participation agreements (PPRC, 1987). The freeze ended on May 1, 1986 for participating physicians, but remained in effect until January 1, 1987 for nonparticipating physicians. Research has shown that freezing physician's fees in the past has not successfully constrained total reimbursements under public programs (Gabel and Rice, 1985). Physicians have historically responded to fee controls by billing for a larger number of more complex services (Rice and McCall, 1982).

A variety of stronger measures are being discussed to control expenditures for physicians' services under Medicare, with considerable attention being given to application of DRG's to physicians services (MDDRG) (Jencks and Dobson, 1985). Under an MDDRG system, Medicare would reimburse globally for all inpatient services performed by physicians during hospitalization. The amount would be determined by the DRG in which the hospitalization was classified at discharge. An important issue in considering MDDRG's is whether to pay physicians as members of the medical staff, the hospital, or the attending physician (Jencks and Dobson, 1985). More importantly, however, are concerns whether inpatient quality will be maintained at an adequate level. If the DRG system is extended to physicians, both physicians and hospitals will have a financial incentive for premature discharge from the hospital.

To review current methods for paying physicians under the Medicare program and to make recommendations for change, the Physician Payment Review Commission (PPRC) was created by Congress in the Consolidated Omnibus Reconciliation Act of 1985. Two annual reports have been issued to date (PPRC, 1987 and 1988). Thus far, the Commission has focused its attention on the development of a fee schedule for Medicare payments to physicians. The Commission is also concerned about the need for an effective strategy to moderate the rate of growth of expenditures without a threat to access and quality of care. We do not know how Medicare' physician payment methods will change, but any significant change may have positive or negative impacts on the cost and quality of service that physicians provide under Medicare.

CONCLUSIONS

The overall rate of increase in health care expenditures has declined in recent years. But there has been a reversal of the rate of growth of spending for hospital care and outlays for physicians' services, with greater increases for the latter. The implementation of PPS for hospital payments under Medicare clearly has impacted payments systems under other public programs and in the private sector. Most of the state Medicaid programs have established their own prospective payment systems. Private insurers and employers are seeking alternative methods of paying their large health care bills.

The health care maintenance organization has emerged as a logical and desirable way of arranging and paying for medical care. Group-practice prepayment plans have grown slowly, but their achievements in assuring more comprehensive care and in containing costs has drawn national attention. The advocacy of HMO's in the 1970's to contain costs while preserving the quality of health care was based on the performance of a small number of prepaid plans in existence at that time that produced substantial savings for their patients. Three areas in which they differed from traditional fee-for-service health care included: 1) the use of inpatient services was 40-50 percent lower; 2) overall costs were 15-20 percent lower; and 3) quality of care was better or at least equal (Meyers, 1982). After a decade of further research, savings claims are still valid (Luft, 1981). In 1985, however, there were 393 operational

HMO's in the United States with an enrollment of only 18.9 million persons (U.S. Bureau of the Census, 1986, p. 90).

Preferred provider organizations (PPO) are one of the newer types of alternative systems in which hospitals and physicians contract on a fee-for-service basis with employers, insurance companies, or third-party administrators to provide comprehensive medical services to subscribers. In return for using a preferred provider, subscribers receive economic rewards such as reduced coinsurance and copayments. General features of PPO's include the use of a closed provider panel, a negotiated fee that reflects a discount, utilization review, and more rapid payment by insurance carriers. The objective is clearly to obtain the lowest rate possible thereby fostering competition among providers.

The recent unprecedented increases in premium payments under private insurance plans clearly indicate that we have not stemmed the tide of increasing medical care costs. The issues of access and quality continue to plague us. The patient is bearing more of the burden of the costs of medical care as controls are placed on public and private insurance programs.

A significant share of the population has no or poor insurance coverage. Many people, especially older persons, mistakenly assume that they are covered for long-term care services under Medicare and their Medi-gap policies.

Policymakers continue to search for piecemeal approaches and stop-gap measures to hold down the costs of medical care. In the long run, we as a nation must face the fact that the different payment systems under different public and private programs tend to shift the burden of costs from one population group to another and from one payor to another. In the long run, the magnitude of our cost problems and their solution require a federal commitment to a program of national health care to protect all Americans from devastating health care costs.

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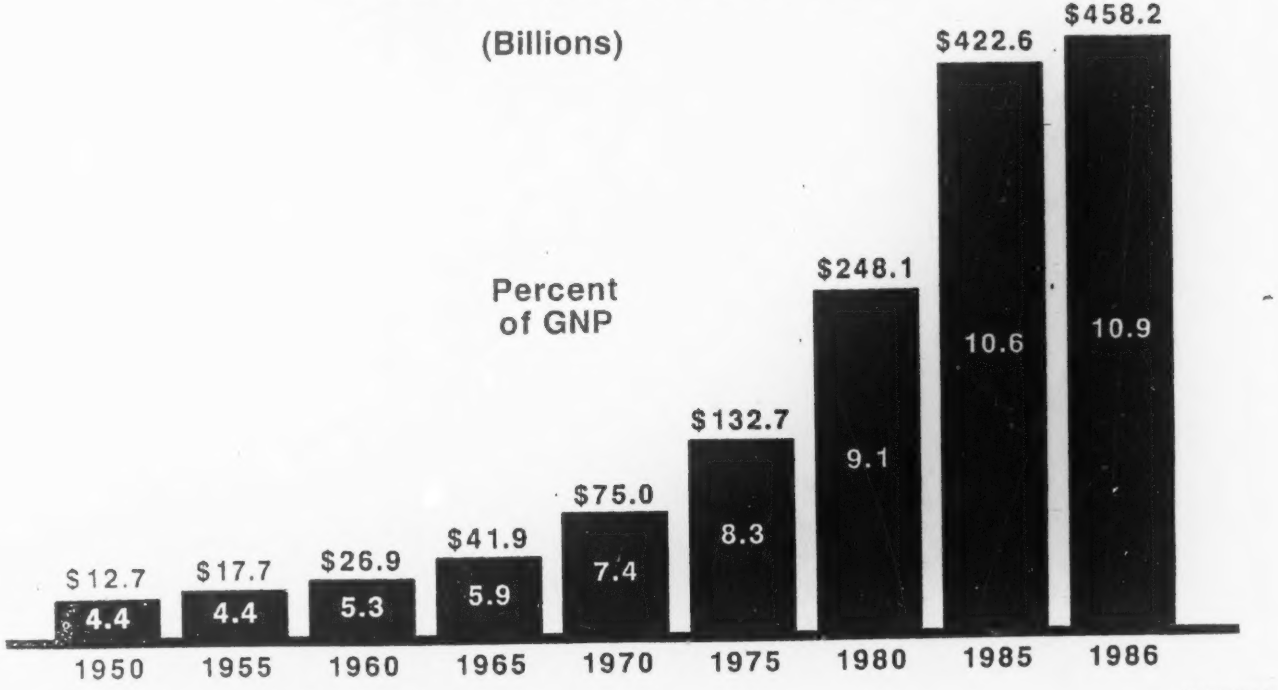
FIGURE 1

National health expenditures as a percent GNP, selected years, 1950-86

(Billions)

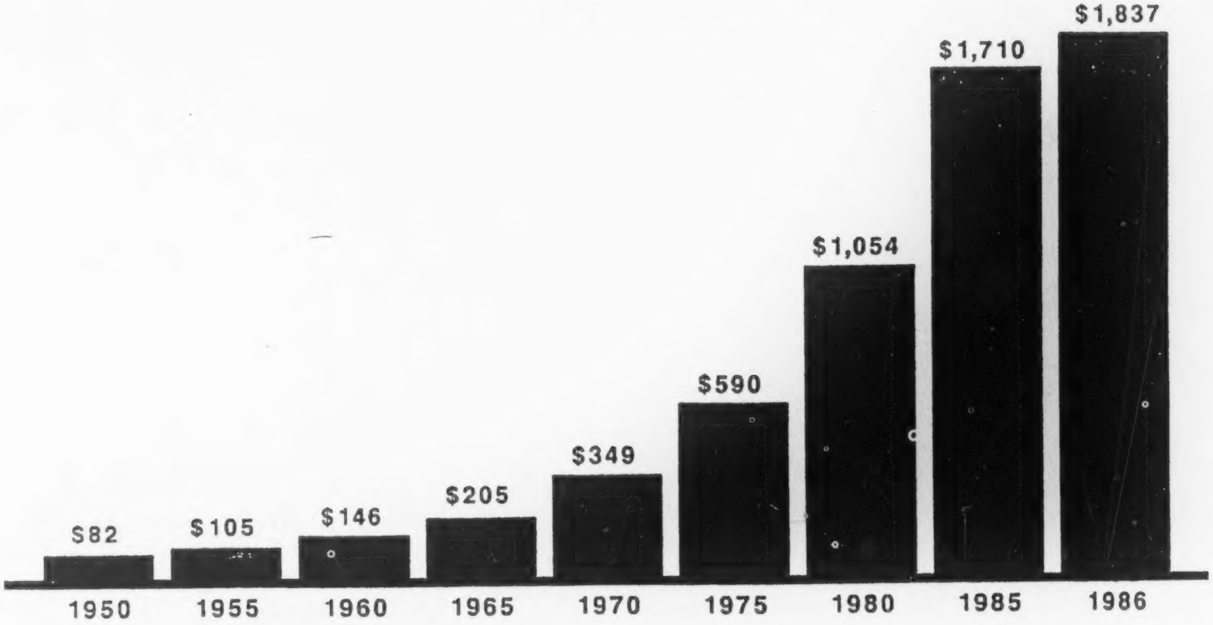


SOURCE: Health Care Financing Administration

H10T.008

FIGURE 2

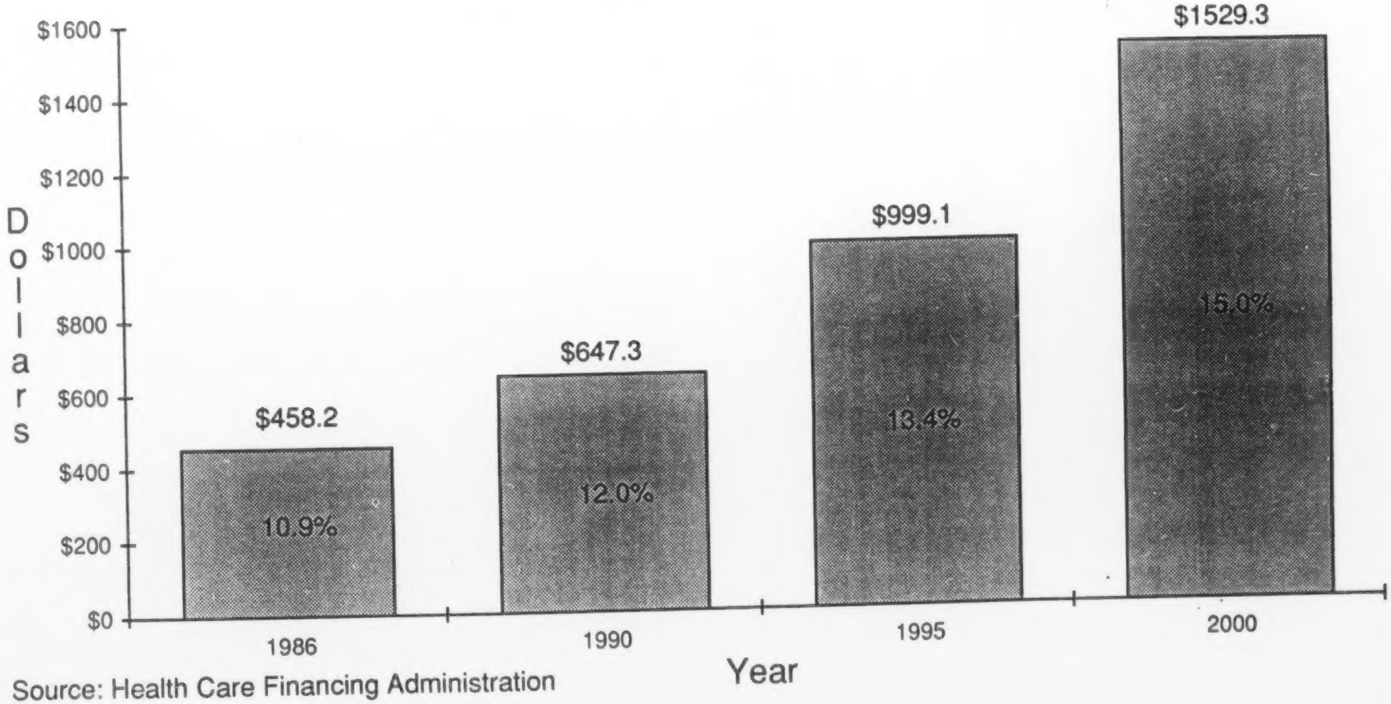
Per capita national health expenditures, 1950-86



SOURCE: Health Care Financing Administration

H10T.013

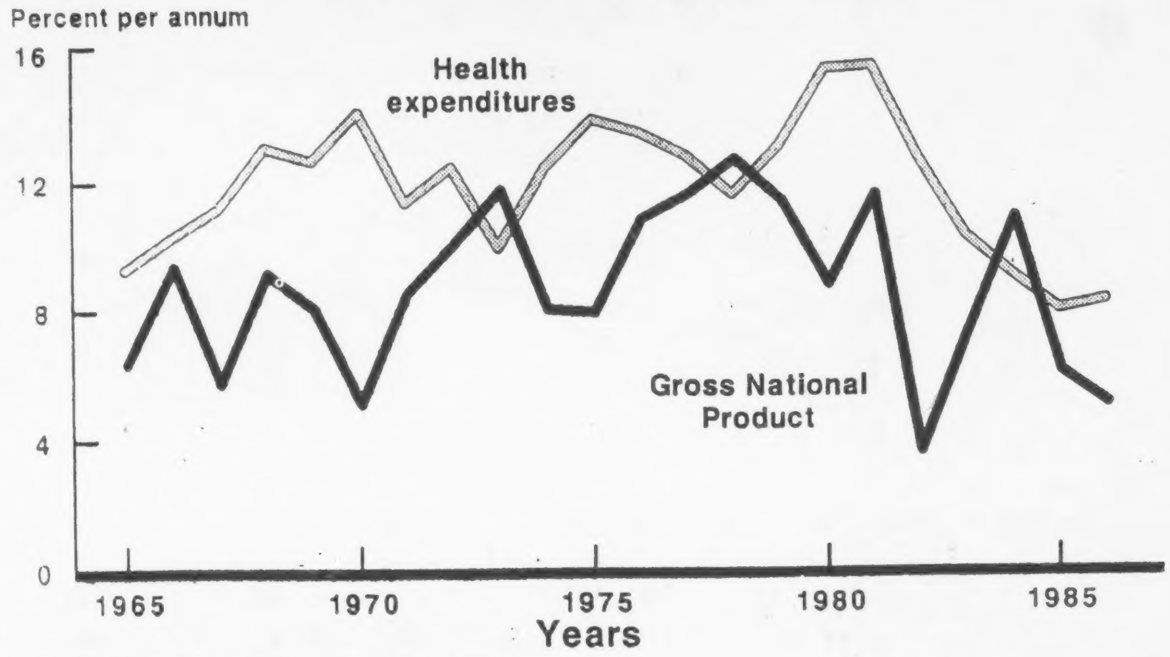
Figure 3:
National Health Expenditures As Percentage of GNP, 1986-2000 ($Millions)



Source: Health Care Financing Administration

FIGURE 4

Annual percentage change in GNP and health expenditures, 1965-86

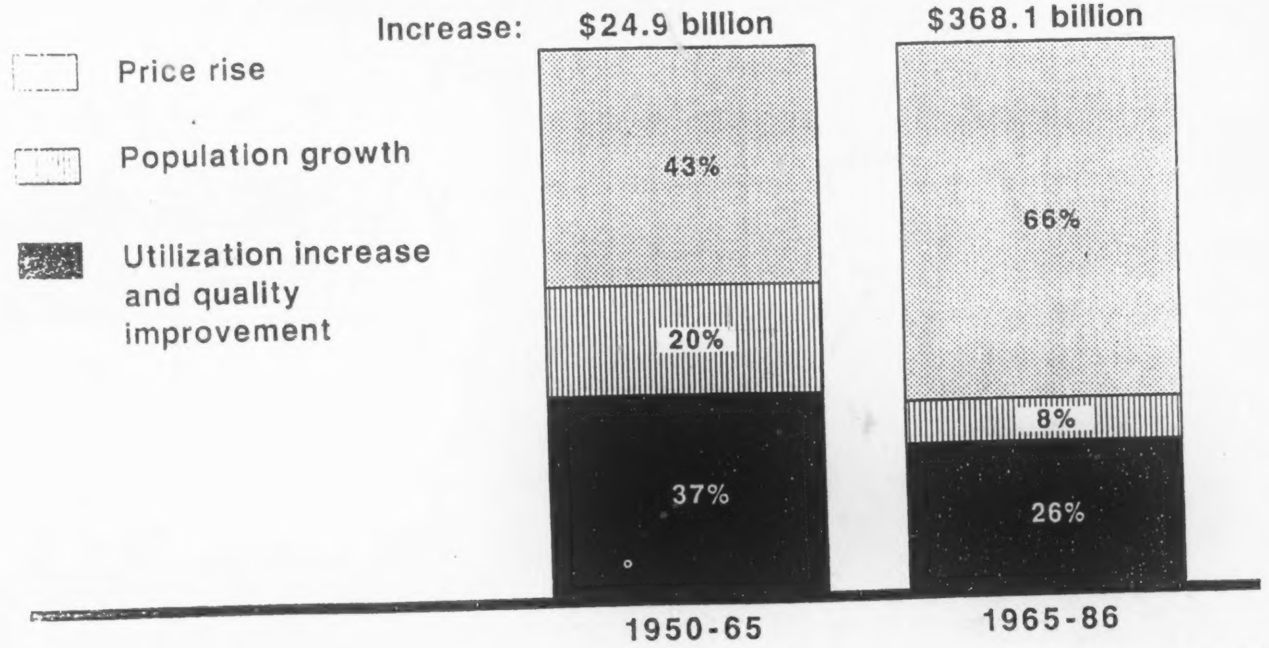


SOURCE: Health Care Financing Administration

H10T.007

FIGURE 5

Sources of increases in personal health care expenditures, 1950-86



SOURCE: Health Care Financing Administration

H10T.012

Representative SCHEUER. Thank you very, very much, Ms. Rice.

RESOURCE ALLOCATION

Well, this has been a splendid panel. We've seen the inexorable and relentless increase of health care costs as a percentage of GNP. We seem pleased with ourselves when we reduce the increases in medical expenditures from 3 or 4 or 5 percent to 1 or 2 percent greater than GNP. But yet even 1 or 2 percent extrapolated over a long period of time means that health care costs are taking a bigger bite out of GNP and out of personal spending of all kinds.

It seems to me there has to be some logical point where you have to consider some profoundly fundamental questions. For example, other needs in society, other public service needs, education. One-quarter of our adult work force is functionally illiterate. We have a desperate need for improved health education, and as Secretary Califano told us, more research on drug addiction and on aging.

Our school system operates 180 days a year compared with the Japanese system of 240 days a year. Japanese kids and European kids are far better educated for their work force and for general citizenry than our kids are.

At some point in time we have to address the health care system and say, "Enough." We have other societal needs. We can't keep increasing the reach of the health care system so that every year the percent of GNP spent on health care increases.

We have education needs. We have job training needs. We have housing needs. We have research and development needs and science and technology needs. We have plant and equipment needs. We have all kinds of national needs outside of the health care system.

At some point in time we have to stop looking at the health care system just as a unitary system and look at it as part of a national system for other very important services. We just cannot let this inexorable increase in costs go up every year.

We know that expenditures are going up, but as a percentage of our GNP, we simply can't let that continue ad infinitum on into the future. And we have to look to some answers. How do we cap it and how do we control it in a way that won't impact on quality and won't impact on access for people who have difficulty gaining access now, the low-income people, minorities?

These are the questions. Do any of you—well, let's go down the line. Let's ask all of you. What do we do to get a handle on health care costs? Health care costs are almost 12 percent of GNP, far more than any other industrialized country in the world, and they're getting just as good if not superior health outputs for a far lesser percentage on their GNP's and in most cases it's not only a lesser percentage but a lesser GNP.

What do they know that we don't know and what should we be doing about it? In particular, I forget whether it was Ms. Davis or Ms. Rice who mentioned that HMO's only include about 8 percent of the population, so that can't be looked to as a major source of economies in the future. Should one of our goals be to expand the HMO concept? The testing period for HMO's over several decades now indicate that the HMO system does provide a rational system for capping health care costs without sacrifices of quality, and perhaps improving access.

Let's go to the mountaintop and discuss what we do to cap this system right now at 11 or 12 percent of GNP and say we have too many important other competing national needs for this monster to grow inexorably every year and the claim it presents us and the check it presents us as a percentage of national resources. Anybody?

Ms. DAVIS. Well, I certainly agree with you, Mr. Chairman, that we need to think about health resources competing with other things that we need in our society—food, education, training—that's both in terms of the economic resources and certainly the tradeoffs in terms of Federal budget outlays are very difficult issues indeed.

The economic pie will grow over time as we get economic growth, productivity, a higher standard of living, but the share of growing I think should be a source of concern. I don't think it would be a source of concern if we were absolutely convinced that we needed to spend that much money to get the kinds of health outcomes or quality of life, but I think there's a lot of evidence that not all of that spending is necessary.

INTERNATIONAL COST CONTAINMENT COMPARISONS

You asked what other countries know that we don't know, how do they get that information? I know you have another panel coming up. But I'd say they do two things that we don't do. First of all, they have some universal system of health insurance coverage. Earlier you mentioned the Dukakis health system in Massachusetts, so that there's some universal health insurance coverage for the entire population so that you don't have problems of financial access to care.

The second thing they do that we don't do is that the government has a strong say in how much hospitals and physicians are paid. They negotiate with their physicians or they have set budgets for their hospitals, whereas we've had a policy of letting physicians decide themselves how much they would like to be paid, and until very recently have let hospitals totally decide how much they would like to be paid. So we've had a very open-ended payment system that simply encourages these kinds of growth in expenditures.

I think the most important thing we could do would be to get universal health coverage in this country and have a system for the Government to set or negotiate hospital budgets and physician payment rates.

HMO'S

You mentioned the HMO. I do think that's a good model, but limited. It basically appeals to younger population groups that don't have long-standing relationships with their physicians. I don't think you're going to see substantially more people interested in getting all of their care exclusively through an HMO. We have seen good results in a number of HMO's, but there have been abuses in quality of care in some HMO's. The growth of HMO's in the last few years has been slow because of some of the Federal requirements for Federal qualifications. I believe we need to improve our standards to assure quality of care and financial solvency in the HMO system.

NATIONAL HEALTH INSURANCE

Representative SCHEUER. Ms. Rice.

Ms. RICE. I won't repeat what Ms. Davis has said. I agree with her totally in the need for a universal health insurance system.

I do want to add——

Representative SCHEUER. Let me just interrupt you at that point. Some people say we're not ready for a national health insurance system because we haven't learned how to control costs. And if we ever went to a national health insurance system that 11 or 12 percent would escalate uncontrollably.

I take it the two of you are not taking that position.

Ms. RICE. That simply isn't so.

Representative SCHEUER. You're actually saying that going to a national health insurance system will help us contain costs and help us rationalize the economics of health services as well as improve the standard of care.

Ms. RICE. There's no question about it. Look at our neighbors to the north. Canada, at one time, had a rate of growth of health expenditures that was similar to ours and with the introduction of their national health insurance program, they have contained the rate of growth and their percentage of GNP devoted to health care. You will be hearing more about that on the next panel, I'm sure.

Your concern about limited resources is a concern of economists throughout the centuries. We have to look at the rational allocation of resources and the growing percentage of GNP is our main concern at this time.

BUDGET COMPOSITION

One of the points that was made earlier is that we do have to look at competing needs throughout the economy. With a growing economy that I hope will happen in the future, we can devote more to all of the sectors. Hopefully we'll be seeing that trend in the future, but we do have to look at how we can tax ourselves a bit more in order to be able to raise additional funds to pay for some of these competing needs, including health care expenditures.

We could be looking at cutbacks in defense spending to reduce deficits, and tax increases would assist in the development and funding a national program for health care for all Americans.

Representative SCHEUER. Well, you're absolutely right. We in Congress are a little more delicate than you are. We talk about revenue enhancement. We're not ready to talk about it this year. Absolutely nobody is. I've sort of made a few little gentle suggestions that maybe the Joint Economic Committee might hold some hearings and have outside witnesses come in and tell us how we ought to have a far more effective approach to this $150 or $155 billion budget deficit through a balance of program reductions and revenue enhancements. And there's absolutely no support even for having hearings where we say nothing ourselves but listen to outside experts tell us what to do.

This is a very politically charged subject and it's going to have to wait until after the first Tuesday in November. But I hope it will be topmost on our agenda for the 101st Congress finally to address this totally absurd and imbalanced and morally unjustifiable situation in which we find ourselves where we're spending well over $150 billion a year more than our revenues and we're borrowing it from foreign creditors. And how long they will continue to take our markers is anyone's guess. But we're on a slippery slope and we have to address that question.

PHYSICIAN PAYMENT REFORM

Could I ask you the simplistic question of what is the single most significant thing we could do, or the two most significant things we can do to get a handle on health care costs without impacting our quality or access?

Ms. RICE. I think we do have to address the issue of physician services. The Physician Payment Review Commission is now studying the problem. I do hope that they can come up with their recommendations very soon because we have seen the escalation in the costs of physician services in the past few years.

Ms. DAVIS. I would second that. The single most important thing we could do is reform the way that medicare pays physicians, moving to a fee schedule, changing the relative values so that we don't pay so much for surgery and so little for basic primary care or preventive care. So realigning the health system, but also taking steps to deal with the very rapid growth in the volume of services for which physicians are billing. We see the growth in the laboratory testing. We see the growth in outpatient surgery. I think we need to do more than just look at the price we pay for each service and I think there are three options here that are worth considering: improved utilization review methods that would apply in the ambulatory sector as well as in the inpatient sector; second, development of appropriate guidelines for physicians so that there is some standard common understanding of what is an appropriate diagnostic and treatment protocol for patients of different types; and third, looking at ways of getting automatic economic incentives to physicians to control unnecessary utilization of services, such as pegging the fees based upon the total expenditure performance either nationwide or in a particular geographic area.

CONSUMER ATTITUDES AND MALPRACTICE

Mr. WALDO. But in addition to all these things, I think that we have to address a more fundamental and long-term issue, which is the public perception and expectations of the health care system.

To the extent that consumers of care demand more and more services in the tradition of Marcus Welby and Dr. Kildare where you go to the physician to be not only treated but to be healed of all your afflictions—we expect more of the medical care community than perhaps they're able to deliver.

Representative SCHEUER. Well, certainly the explosion of malpractice cases is an indication of that. We're almost at the point where at the meeting or convergence of the health care system and a patient if the outcome isn't perfect, there's an automatic assumption, a barely rebuttable presumption, that you have to sue, go to the courts—malpractice. And at the risk of offending the medical profession, I think it's fair to say that it isn't just a science, but a high art form, and with outcomes that are very unpredictable. Some way or other we just have to shut off this barely rebuttable presumption that if an outcome of a meeting or convergence of the health care system and a patient isn't perfect that they should go to the courts. It's terrible.

Let me ask all of you on the question of malpractice, should we leave that malpractice situation to the various States? I think Secretary Califano referred to a single State, California. Should we leave it to the States to deal with it themselves or should Congress approach the whole question of malpractice and have a national answer to that national problem?

Ms. DAVIS. That's a sticky one. I would recommend leaving it to the States for now, but there are a variety of issues there with regard to whether one could have a better review mechanism so that you could have a panel to review claims, also the amounts of awards, and those types of issues. So I think perhaps getting the States to work through that a bit longer would be appropriate.

Ms. RICE. Somehow we've managed to look at no-fault insurance in the automobile area. We should be able to learn some lessons from that experience. This is an area in which I don't have any expertise at all, but it's clear, as you point out, malpractice costs zoomed up again and we've seen OB GYN's leaving their specialty because they simply can't afford to pay their malpractice costs.

Representative SCHEUER. Well, they aren't necessarily giving up OB GYN practice, but they are not delivering babies. And there are parts of the country, particularly some rural areas, that are painfully underserved because many OB GYN's have just stopped delivering babies because of the malpractice threat that hovers over them.

NATIONAL HEALTH INSURANCE

I think there's a consensus here, as I've heard it, that we ought to be moving toward a national health insurance scheme. There's no dissent there.

Mr. WALDO. Excuse me. I can't speak for my agency of course because this is outside——

Representative SCHEUER. Nobody is speaking for any agency. We're all here as individuals.

Mr. WALDO. I think that we need to recognize that very often national or nationwide approaches to something are a treatment of the symptoms rather than the treatment of the cause. And although national health insurance can move in the direction of covering people who are currently not insured against health costs, it's not clear to me that that will do anything to curb the increase in health expenditures as a proportion of the gross national product. It's not going to do anything to curb an increasing health expenditure.

What we're going to have to do to curb health expenditures is not standardize insurance, but rather, move back to the root causes, look at what those causes are, and identify which of them are inexorable—the aging of the population, the introduction of technology, the enhancement and extension of life—and accept them and look at the other causes—increases in consumption that are more caring than curing, if you will—and say we are willing to pay for cure, but we are not willing to pay for care, or we're willing to redefine that out of the health sector.

But we have to get to the providers and we have to get to the patients and convince them both to change their expectations of the profession and to change their expectations of their own outcome. And I don't see national health insurance as addressing that.

Ms. **Davis**. Let me say—because I think this point is very important—that I would agree with Mr. Waldo that if you cover the uninsured you will have more health spending because these people are now not getting enough care. So when those 37 million people get health insurance coverage, you could expect them to go to the doctor more often and go to the hospital more often and total health spending to go up. So I don't think just having the insurance coverage is enough.

In addition to that, you need very tight limits on payments to hospitals and physicians. The difficulty with trying to impose tight limits on hospitals and physicians without first getting or simultaneously getting expanded insurance coverage is it squeezes the poor out of the system and we've seen some of that in the early 1980's. Hospitals less willing to take uninsured patients, less willing even to take medicaid patients, because you've cut down so much on what medicaid will pay for the care of their beneficiaries.

So I would say you need to have the insurance coverage not because that will solve the cost problem but because trying to solve the cost problem without doing that becomes socially intolerable.

Representative **Scheuer**. Well, this has been a wonderful hearing. Does anybody have any last comments to make before we go to the next panel?

Mr. **Freeland**. To me it was a very useful approach to look at spending on health versus all other things. Later on you linked that idea to the changing demographics in the outyears and how that's going to expand the demand for health care.

The Health Care Financing Administration—HCFA—has done a lot of work on impact of demographics. HCFA analyses followed earlier methodologies of Rice and Davis, but expanded and embellished their work. What we've done is to look at not only the impact of the aging population on utilization but also how it will affect the intensity of services per visit. My colleague, Mr. Waldo, has included some summaries of this type of work in his testimony. We have more detailed work on this in a Health Care Financing Review publication where we show if physician spending increased solely due to demographics—due to changing utilization and intensity—what would happen to the proportion of GNP allocated to physicians' services? We did the same thing for hospitals, nursing homes, and for all other kinds of care.

It sets a baseline to see where demographics, holding everything else constant, is taking us. Of course, expenditures have been rising faster than these demographic impacts and a lot of that has to do with the reimbursement system.

The question came up, "Can we control health care costs?" I think in the case of hospitals there seems to be a fair amount of evidence on the inpatient side that we've had some success, but expenditures seem to have ballooned up somewhat on the physician side. So I think there are still questions about society's ability and willingness to contain total health care costs. There are at least four groups working on payment reform for physicians' services—HCFA, Physician Payment Review Commission, OTA, and CBO. After comprehensive payment reforms are implemented and we can document that we know how to provide access, quality of care, and contain costs, I think the country and its specific social institutions may be more ready to look at some type of employer-based insurance and subsidized plans, say, for certain low-wage and unemployed populations.

This last comment, of course, is my own opinion and is not to reflect on the agency or Department.

Representative SCHEUER. We don't need any more disclaimers. You're all here as individuals. Do you think the country is ready for a move into a national health program?

Mr. FREELAND. I think we have a specific set of social and economic institutions that are different from Europe and to some extent different from Canada. The United States may be more ready than it was 10 years ago for a "national" health plan. The pressure now is coming from the private sector where the increasing cost of fringe benefits as a result of rising health care costs is making prices of American outputs less competitive in world markets.

Representative SCHEUER. Two final questions that I'm going to ask you and the other members of this panel. Are there any changes in the whole spectrum of the health care system that we should make prior to moving into a national health care system, to prepare the way for a national health care system?

And second—well, let me just ask that question. I'll reserve the last one. Is there any thing that we ought to do to till the land or to fertilize the crops to prepare us to more smoothly enter into a national health care system?

Ms. DAVIS. I think that we could be ready to do it now if we had the political basis for doing it, so I don't think that there are prerequisites that need to be pursued. But I think even if we don't have movement toward an employer-mandated health plan, that we should address the issue of physician payment and get a good system. I think everyone agrees—physicians, patients, the Government—that the current medicare payment of physicians is simply inequitable, inflationary, too complex for anyone to understand, and I would recommend moving ahead with that.

Representative SCHEUER. And very wasteful.

What are the main barriers, what have been the stumbling blocks that have stopped Congress, and the past several administrations—this is after all a bipartisan problem and a bipartisan responsibility—what have been the impediments to our moving more effectively into a national health care program? Is it the physicians' lobby, the hospitals, the fear of people that we're going to have this specter of government interfering in their health care choices? What are the things that policymakers, both in the executive branch and in the Congress, have to think about? What have been the impediments so far that we must plan to overcome as a precursor to moving into a national health care system?

Ms. RICE. Mr. Chairman, it's all of the above. It's all of those things that you point out. We simply have not moved in the direction that we thought we were moving when medicare was enacted. At that time we were sure that national health insurance was around the corner. Then we did see a rise in medical care costs. I remember very clearly that first year after the medicare program went into effect that we presented a report to Congress and to the President on the rise in medical care prices. We really did have to catch up on the lag in payments to hospitals. Our hospitals were in a financially bad position. Nurses and all the hospital employees were underpaid. So we saw an immediate increase in hospital care spending and this fueled the concern about whether we should or shouldn't move into a national health insurance program.

But we did not foresee the oil crisis. We didn't foresee the problems associated with rising costs in the general economy at that time that have continued to grow. The slowdown in the rate of growth in the economy, along with the recent large budget deficits, has created the situation that we are in now where Congress and the people are concerned about whether we can afford to pay for quality health care for all Americans.

Representative SCHEUER. Well, this has been an exceptionally fine panel and I thank all four of you for your really splendid testimony. Thank you very much.

We will have a 3-minute break before the second panel.

[A 3-minute recess was taken.]

INTERNATIONAL COMPARISONS

Representative SCHEUER. We are now ready for the panel which will give us the benefit of their views on the foreign experience and what countries abroad seem to know or what countries abroad have in their cultural inheritance or their political system that enables them to produce excellent health outcomes at a smaller percentage of GNP. In some cases, as Secretary Califano indicated, at a fraction of the GNP that we've spent. It may be from factors about which we have little control. It may be from factors that we have some control over. It may be from factors over which we have a great deal of control. We look forward to hearing from all of you.

First, we will hear from Mr. George Schieber, Director of the Office of Research of the Health Care Financing Administration. Each of you take 7 or 8 minutes. Your prepared statement in all cases will be printed in full in the record and I suggest that you chat informally for that 7 or 8 minutes giving us the highlights of your testimony and please don't hesitate to refer to anything you heard this morning that has piqued your interest. Mr. Schieber.

STATEMENT OF GEORGE J. SCHIEBER, DIRECTOR, OFFICE OF RESEARCH, HEALTH CARE FINANCING ADMINISTRATION, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Mr. **Schieber**. Thank you, Mr. Chairman. It's a pleasure for me to be here today to discuss health care financing from an international perspective.

A lot of what I'm going to say is based on the 3 years that I spent at the Organization for Economic Cooperation and Development, which is a Paris-based international organization whose 24 member countries are the Western industrialized democracies.

Representative **Scheuer**. Including Japan.

Mr. **Schieber**. Including Japan and Australia and New Zealand as well, the Pacific Basin, not Asia.

Representative **Scheuer**. Right.

Mr. **Schieber**. The focus of this hearing is certainly appropriate. Health accounts for almost 7.5 percent of the gross domestic product and over 9 percent of all total final consumption expenditures of the OECD countries. Indeed, the OECD countries spend more than twice as much on health as they do on national defense. Health expenditures in OECD countries exceed $1 trillion. That's more than $1,000 for every man, woman, and child. The health sector is one of the largest employers in all those countries, accounting for about 5 percent of all employment.

Unfortunately, despite its importance, there's not a whole lot of information on expenditure trends, utilization, and overall performance of different health systems.

Representative **Scheuer**. Expenditure trends, utilization—can you translate that into the Queen's English?

Mr. **Schieber**. Amount spent on health care, number of hospital days per person, number of physician visits per person, length of stay in hospitals, length of stay in different types of institutions.

Representative **Scheuer**. Thank you.

Mr. **Schieber**. I'd like to do today quickly in the time allowed to me three things. First, I'd just like to say something very quickly about international comparisons in general and data problems.

Second, I'd like to provide some statistics and data on utilization and expenditures in the different OECD countries.

Last, I'd like to make one or two remarks about policy implications.

PROBLEMS WITH INTERNATIONAL COMPARISON

I'm not going to go through the different models of health systems. I don't think that's particularly useful. I think the important point is that all systems attempt to provide access to medically appropriate and medically effective services in an economically efficient manner. Certain health systems also contain implicit or explicit incentives for balance of payment or employment.

I think one of the basic problems, Mr. Chairman, and it's something you've heard a lot about today and I think it's a basic problem whether we're comparing different health systems or talking about an individual country, is our inability to evaluate the performance of the health sector. I just said that the basic underlying objectives are access, medical appropriateness, medical effectiveness, and economic efficiency. These things are all very difficult to define and measure.

I think a central problem underlying much of this is really defining, or an inability I think to define well, health outcomes. I think to assess the performance of these different systems we have to be able to measure total and incremental amounts of "good health" associated with various expenditure levels. And I would submit that I think that the gross outcome measures that we tend to use, such as infant mortality, life expectancy, death rates, and so forth, are far too aggregate for really assessing the effects of various health care policies for a variety of reasons, not the least of which is that they are so tied up with other socioeconomic effects.

Representative SCHEUER. You're thinking perhaps of poverty?

Mr. SCHIEBER. Yes, sir. Poverty, housing programs, food programs—you can go through all these different kinds of things.

A second difficulty in international comparisons—and I don't want to belabor it—arises from comparing countries with very different economic, cultural, demographic, and institutional structures. In my prepared statement I've overlined a number of very specific factors. I think just one example might suffice. I think it's very difficult to compare a country like Denmark with 5 million people in a very small area, all ethnically similar, to a country like the United States with 240 million people, very separated and very ethnically diverse.

Representative SCHEUER. That's true, but having said all that, there still may be some very significant lessons we can learn from them about the way they organize their health care system.

Mr. SCHIEBER. I have no dispute with that. I think the third factor really deals—again, a bit of a methodological one—with the comparability of data. Unfortunately, there are no national social accounts definitions of either health spending or utilization measures. There are no standard definitions of what is a hospital. This does create a problem in terms of making comparisons when you use the administrative data reported by different countries and their reporting systems.

OECD COMPARISONS

The data that I'd like to discuss today are based on work done by the OECD a couple of years ago. They published a compendium of data of some 80 tables where they tried to assure comparability, at least as much as possible, by using standard definitions of health care expenditures and so on. In other words, they tried to define the health sector with the same sets of boundaries.

Let me turn to what some of those comparisons look like if I could. Table 1 in my prepared statement provides information on the share of gross domestic product devoted to health for selected years between 1960 and 1985, for 22 of the 24 OECD countries. I think you can see here, on average, we've seen very strong growth in the share of GDP devoted to health, from 4 percent in 1960 to some 7.3 percent in 1985. As Ms. Rice pointed out before, the growth in the OECD countries health spending was much more substantial prior to 1975 when there was strong economic growth and public programs were maturing. In the period 1975 to 1985, the growth in the GDP share was much slower, largely as a result of the diminished economic performance as a result of the oil shocks.

As you can see, the United States has outperformed the other economies, if you want to use that term, in terms of its growth. We went up from a share of about 5.2 percent in 1960 to 10.7 percent in 1985. I have an 11.1 percent figure for 1986, which is not in my prepared statement, but we are still clearly continuing to increase. The United States devotes the largest share of its GDP to health and its share is almost 50 percent higher than the OECD average.

We can look at the public shares. Given the time, I'm not going to bother with it. It's just quite clear that about 41 percent of our health spending is paid for by the public purse compared to almost 80 percent in the OECD countries.

I might add one interesting statistic that does fall out of some of this, though. Between 1980 and 1985, in 16 of 22 of the countries, the public share seems to have either stabilized or fallen. Now I don't know if that indicates a trend toward more private financing in some of these other countries. I think it's too short a period to say anything definitive, but it would appear at least in Europe that the growth in the public's share of total health spending has leveled off.

Representative SCHEUER. Let me, if I may, just interrupt you to ask you to expand on this point. You have a phenomenon that in Europe, according to this table, of course, there's a very much higher participation on the part of the public. In other words, government-paid services, going all the way up to 80 percent in Japan, 97 percent in Germany, and 85 percent in Denmark, compared to the United States' 41 percent, the smallest percentage by far to any of these countries. But yet they've been able to control health care expenditures.

What is the relationship between an increasing percentage of health care costs being absorbed by government and the ability of a society to control this seemingly inexorable increase in health care expenditures that we face in this country?

Mr. SCHIEBER. I think, Mr. Chairman, there are a couple of things going on. I believe a lot of countries haven't really controlled their expenditures. They started from a lower base and they've increased substantially. Some countries have. I think in all fairness, if you do look at the figures here, between 1980 and 1985, for example, you find that in a large number of countries their GDP shares have not increased. I think it's hard to explain why.

Representative SCHEUER. Since it's overwhelmingly a government program of health care, what are the policies of all those governments? Is there a single thread that runs through them that have enabled them to contain costs?

Mr. SCHIEBER. I don't think there's a single thread. I think there are certain threads and they differ substantially. For example, if you look at the Scandinavian countries, Finland has done much better than Sweden. Now why? Finland is about 6 or 7 percent, Sweden is up around 8.5 percent. Some attribute it to very tough centralized planning in Finland as opposed to regional planning in Sweden. That might be a factor.

Another factor which I think I'd better get to because I think I've exceeded my time already——

Representative SCHEUER. No. These questions are on my time.

Mr. SCHIEBER. Other countries have made major efforts to tighten down. France has put in a major global budgeting system in 1984. In Belgium they've taken a very tough stand in terms of converting excess hospital beds into nursing home beds. In other Scandinavian countries, they will not give a physician a billing number to bill under their national health insurance program unless he locates in a shortage area.

There are a lot of these things that I would say perhaps have had a lot to do with it, but it's very difficult to isolate them and then generalize them to our situation. They may all be completely relevant and then again they may not.

Representative SCHEUER. Please go ahead. I'm going to try not to interrupt you again.

Mr. SCHIEBER. I will try to put out the rest of the relevant information so I can give the panel and yourself time for the questions.

I'd like to look at absolute levels of health spending across countries also, and I think you can see that in my figure 1 of my prepared statement, that in 1985 health spending in the OECD countries ranged from about $250 in Greece to $1,765 in the United States and indeed the chart shows that spending in the United States on a per capita basis—this presumably adjusts for differences in price levels across countries—was 38 percent higher than in Canada, the second highest country; 49 percent higher than in Sweden, the third ranked country; and 184 percent higher than the United Kingdom, which was the 17th ranked country.

Underlying these differences in spending are clearly differences in utilization and availability of services across countries. I present some tables showing how the United States has about the same physician population ratio as most OECD countries, but we have substantially less inpatient medical care beds per capita than the other OECD countries.

I also present some data on table 3 of the prepared statement and I would interpret these data very carefully. This goes back to not having standard definitions for different things being included in what is a hospital and what is not a hospital. Essentially, the picture here is a very revealing one in my view. It shows that the United States has the lowest hospital use in terms of per capita days per year per person, as well as average lengths of stay are much lower in the United States than they are in the other five countries I'm comparing us to. Yet, on the other hand, we have the highest expenditures per day and per stay of all the countries.

The question is, What does this mean? I think it could suggest a lot of things and I think one of the things it suggests is that the intensity of services per day here is much higher than it is in other countries. It could also suggest that there are higher amenities.

Representative SCHEUER. Would you elaborate on that? You mean they're getting higher quality care?

Mr. SCHIEBER. Their stay is shorter but they are getting a lot more technology——

Representative SCHEUER. More high technology?

Mr. SCHIEBER. More concentrated in a shorter period of time. You could argue you have that in the United States between New York and California. We have vast differences in times of stay between the east coast and the west coast, but no one has been able to figure that out. But it seems to me that we use less and we spend more and we don't really know why. I think one of the fundamental problems is associating these kinds of numbers with health outcomes. If you go into a hospital here, you stay less time, we spend a heck of a lot more. What does it do for the patient? And I think there the information is far less readily available. We don't really know.

Representative SCHEUER. And specifically what do we spend it on and how do we spend it? I've heard that in Sweden they have 1.3 employees per hospital bed. Here we have over 4.

Mr. SCHIEBER. If you compare us to Germany, Mr. Chairman, that's exactly what you find. We have twice as many employees per hospital bed but we stay about half as much. What does all that amount to in terms of the ultimate care that the patient tests? I wish I had an answer, as did my supervisors at the OECD, and it is not an easy question. I think perhaps some of the experts who can dwell on very specific systems in a lot more detail than I was able to, because we were looking at 24 countries, may have some better insights into this than I do, especially in terms of the comparisons I just made.

The question is what are the policy implications of all this? I think that's obviously one of the things you would like to know, and I'd like to know as well. In analyzing the types of information presented here, I think one key question is, what are the implications of these differences in trends for the United States? We spend more on health care than any other country in the world either absolutely or in relative terms, in dollar terms or GDP shares substantially more.

I would say one factor that hasn't been discussed here today is that since we are one of the richest countries in the world, this isn't surprising. If you see in figure 2, what we show here are the individual countries' per capita health spending versus a trend line for all countries, and essentially what you find statistically when you look at some of this is that countries with higher per capita GDP's spend relatively more. In other words, wealthier countries spend more.

Representative SCHEUER. When you say spend more, I can understand their spending more in absolute terms. I can't understand their spending more as a percentage of GDP or GNP than poorer countries. Why is it written in the stars that they have to spend not only higher absolute amounts—that's perfectly understandable, they can afford it, they're rich. But why should they have to spend a significantly higher—like double—the share of their own national product, their own total of goods and services than poor countries?

Mr. SCHIEBER. I don't think I can answer the why question. All this I think suggests is that countries have chosen to do that. When their GDP has gone up by 10 percent, they've chosen to increase their health spending by 15 percent and that's what this trend line on figure 2 shows. Now it also shows that we are well above that.

Representative SCHEUER. You said countries have chosen to do that. I'm not sure there was any cerebral process connected with that continuing event. I don't think anybody willed that we constantly every year inexorably increase the percentage of gross national product that goes to health. I think we want certain services, certainly a high level of health care services for our people, but I don't think we willed a higher percentage of GNP and I don't know why it should be twice as high as Japan. And we would very much like you to help us explain that. How can it be?

Mr. SCHIEBER. I think it's a lot of the things you've talked about today. Countries have health systems. People have expectations. These systems have certain institutional arrangement which—and I think it's true in virtually all the countries—do not promote efficient use of services. As a result of this, countries have tended to just continually increase their spending by more than their national income has gone up.

Perhaps the word "willful" is not the right word, but nevertheless it has happened and their electoral processes have not really stopped it from happening either, except in some cases.

POLICY IMPLICATIONS OF FOREIGN EXPERIENCES

Representative SCHEUER. That's quite correct. What we would very much like you to do is take a surgeon's scalpel to these phenomena. Help us dissect these systems abroad and help us identify what are the elements, what are the components of those systems that have really worked to keep health care costs down and to maintain quality and to maintain access? What are the systemic things? What are the institutional elements that we can learn from that maybe we can apply in our country?

Mr. SCHIEBER. Well, I don't like to be negative, Mr. Chairman. I just think it's difficult to draw very strong conclusions. In the meetings we often had, the British would come into the room and they'd say, "You Americans are a bunch of fools. You're spending three times what we are. The outcomes on the gross measures are no different. Yes we have queues, but they're all in the right places."

Representative SCHEUER. What do they mean by that?

Mr. SCHIEBER. There are people who may have to wait a year for an elective operation, ration care more.

Representative SCHEUER. For a condition that is not health threatening or life threatening?

Mr. SCHIEBER. That's right, and that's their point. For nonlife threatening things, sure, people have to wait, but the queues are in the right place.

Representative SCHEUER. The queues are in the right place because they are for problems that are not life threatening.

Mr. SCHIEBER. Exactly.

Representative SCHEUER. All right. And sometime I'd like for all of you to address whether this kind of health rationing—just simply delaying things—is something we should think about. Is there any other way of rationing that would be appropriate for our country? I guess we're the only country in the world that doesn't have some means of rationing health care. Should we be thinking about that?

Mr. EVANS. Sure you do. You ration like mad—throw people overboard.

Representative SCHEUER. All right. Each of you are going to get a chance. Maybe you should think about addressing that question. Go ahead, Mr. Schieber.

Mr. SCHIEBER. As I said, I just think it's difficult to draw strong conclusions largely because I don't think we have good outcome measures. Ultimately, what we really want to know is who's buying more good health per dollar, franc, pound, or yen spent, and I don't think we have a good answer there. We don't really know if the huge differences in spending between the United States and other countries are due to differences in quality and outcomes or differences in amenity standards or differences in efficiency. My guess is it's probably all of these things and it is hard to parcel them out and I share your frustration. It's a frustration I had for quite a while at the OECD in trying to draw conclusions from this.

I guess I would just like to make two final points. One of them is simply that we do need better information. That's sort of an obvious one. But I think even if we did have better information, we wouldn't be able to write off these differences that we're seeing here—the expenditure differences, the utilization differences. They would still be there, even with better information than we have now.

In my view, the central question here about these variations really relates to medical practice, the appropriateness and effectiveness of care, and ultimately the ability to measure outcomes in some meaningful way so that you can start comparing them across countries in terms of how many more units of good health did you buy per dollar spent here versus there and how did you achieve that with various policy interventions. Thank you Mr. Chairman.

[The prepared statement of Mr. Schieber follows:]

PREPARED STATEMENT OF GEORGE J. SCHIEBER

Mr. Chairman, Members of the Committee, I am George Schieber, Director of the Office of Research in the Health Care Financing Administration of the U.S. Department of Health and Human Services. It is a pleasure for me to be here today to discuss health care financing and delivery trends from an international perspective. Much of the data and analysis that I will present are based on the 3 years that I spent at the Organization for Economic Cooperation and Development (OECD), an international organization whose 24 members are the western industrialized democracies.

The focus of this hearing is certainly appropriate. While most of the international debates in the Congress and Press are on defense and trade issues, social programs in general and health expenditures in particular are major determinants of both the social and economic well-being of all countries.

The OECD countries as a group spend over twice as much on health as they do on national defense. Health is the second largest social expenditure category and accounts for 15 percent of all public spending and 25 percent of all social spending. Health accounts for almost 7.5 percent of gross domestic product (GDP) and over 9 percent of all total final consumption expenditures. Health expenditures in OECD countries exceed one trillion dollars. The health sector is one of the largest employers in all OECD countries and accounts for 5 percent of total employment.

Despite its importance, relatively little valid information on expenditure trends, utilization, and overall performance of different health systems is available. I would like to try to shed some light on these issues today. First, I would like to discuss the basic structural characteristics of different health systems and the basic methodological problems in doing international comparisons. Second, I would like to provide some data on expenditure and utilization levels and trends for the U.S. and other OECD countries. Lastly, I would like to make some general remarks concerning the policy implications of these data.

Structural Features of Health Systems and Issues in International Comparisons

Health care systems can be characterized in a variety of ways. The usual approach classifies these systems according to one of three basic models:

1. The National Health Service (Beveridge) model, characterized by universal coverage, national general tax financing, and national ownership and/or control of the factors of production;

2. the Social Insurance (Bismarck) model, characterized by compulsory universal coverage generally within the framework of Social Security, and financed by employer and individual contributions through nonprofit insurance funds, and public and/or private ownership of factors of production; and

3. the private insurance (consumer sovereignty) model, characterized by employer-based or individual purchase of private health insurance coverage financed by individual and/or employer contributions and private ownership of the factors of production.

The prototypical country examples of these systems are: National Health Service model - the United Kingdom, Italy; Social Insurance model - France, Germany; Private Insurance model - the United States.

Unfortunately, none of these models is particularly useful for comparing different systems, since virtually all health systems are characterized in varying degrees by specific features of all three models. For example, there is substantial public financing and provision in the U.S. and private health insurance and provision in the United Kingdom.

Of more importance than the specific structural features is the similarity of objectives in these diverse systems. All systems attempt to provide access to medically appropriate and effective services in an economically efficient manner. In the jargon of economists, all systems attempt to achieve allocational efficiency and distributional equity. Some systems also contain implicit or explicit employment and balance of payments (e.g., export) incentives.

One basic problem in international comparisons of health systems' performance is defining and measuring the underlying objectives of health system—access, medical appropriateness and effectiveness, and economic efficiency.

A principal problem in defining and measuring these objectives is our current inability to measure health outcomes. To assess the performance of a health system, one must be able to measure the total and incremental amounts of "good health" associated with various expenditure levels. Unfortunately, the standard health outcome measures of infant mortality, life expectancy, death rates, disability days, etc. are far too aggregate to be used for assessing the effects of various health care policies because they are also affected by numerous other socio-economic factors. Given the crudeness of these measures, attention has focused on the medical, psychological, and social functioning of individuals. However, despite some impressive progress, we still have a long way to go in developing operational measures of health status that can be used to evaluate overall health system performance as well as the impacts of specific policy interventions.

A second difficulty in international comparisons arises from attempting to compare countries with different economic, cultural, demographic and institutional structures. A non-exhaustive list of some of the factors that result in differences in spending and use across countries would include:

- age structures,
- cultural altitudes about health and family care,
- climate and other environmental factors,
- incidences of morbidity,
- industrial and occupational mixes,
- public and private health insurance coverage,
- cost-sharing requirements,
- absolute and relative price structures,
- overall economic performance and wealth,
- provision of health related social services,

- medical practice patterns and availability of certain technologies,
- efficiency and productivity, and
- administrative costs.

To meaningfully compare expenditure and utilization differences across countries, these factors must be accounted for. Unfortunately, it is difficult to control for many of these factors either quantitatively or qualitatively.

A third major problem in international comparisons concerns comparability of the data. This is an area that is often blatantly ignored and of critical importance for meaningful health sector comparisons. While there are internationally agreed-upon conventions and systems governing national income and product accounts, there are no such accepted conventions and systems of "national social accounts." Thus, expenditure, utilization, and price data derived from the administrative reporting systems and statistical publications of different countries are generally not based on the same sets of definitions and concepts. For example, total health expenditures may be based on different concepts of boundaries of the health sector (e.g., long-term care, social services, school and industrial health) and data on hospital utilization may be based on very different concepts of what is a hospital (e.g., short-term acute, specialty hospitals, geriatric hospitals, and nursing homes). The OECD's Measuring Health Care 1960-1983 is a major attempt to establish health satellite accounts based on more comparable definitions and boundaries. The data which I will discuss today are based on these concepts and definitions.

Although far from perfect, these data represent the most comprehensive and systematic attempt to date to create comparable international health care financing and utilization information.

International Comparisons of Expenditures and Utilization

While no set of currently available comparative data will provide clear-cut indications of systems' performance, analyses of expenditure and utilization information can provide some interesting insights about the size and utilization patterns of different health systems.

Table 1 contains information on the share of GDP devoted to health and the percent of total health expenditures that are public for 1960, 1975, 1980, and 1985 for 22 OECD countries. The fact that these numbers differ from previously published OECD figures reflects the continued updating and revision of both health and GDP figures by various countries.

The share of output (GDP) devoted to health provides one measure of individual countries' relative commitments of resources to health. On average for the OECD countries, the share of health expenditures in GDP has increased from 4.0 percent in 1960, to 6.9 percent in 1975, to 7.1 percent in 1980, and 7.3 percent in 1985. The growth during the 1960-1975 period of maturation of many public programs and strong economic performance was substantially faster than in the post-oil shock 1975-1985 period. For the United States, the share of GDP devoted to health care

Table 1

Health expenditure share in gross domestic product (GDP), by country: Selected years, 1960-1985

Country	Total expenditure on health as a proportion of GDP				Public health expenditure as a percent of total health expenditure			
	1960	1975	1980	1985	1960	1975	1980	1985
Australia	5.1	7.4	7.2	7.3	47.1	73.0	62.5	74.0
Austria	4.4	7.1	7.9	8.0	65.9	69.0	68.4	67.5
Belgium	3.4	5.8	6.6	7.2	61.8	79.3	80.3	76.4
Canada	5.5	7.3	7.4	8.4	43.6	76.7	74.3	76.2
Denmark	3.6	6.5	6.8	6.1	88.9	90.8	85.3	85.2
Finland	4.2	6.2	6.3	7.2	54.8	79.0	79.4	77.8
France	4.3	6.8	7.5	8.6	58.1	77.9	80.0	79.1
Germany	4.7	7.8	7.9	8.2	68.1	80.8	79.7	78.0
Greece	2.9	4.0	4.2	4.2	58.6	62.5	85.7	97.6
Iceland	5.9	--	6.9	7.8	39.0	--	82.6	82.1
Ireland	4.0	7.7	8.5	8.0	75.0	81.8	94.1	86.3
Italy	3.9	6.7	6.8	6.7	82.1	86.6	82.4	80.6
Japan	3.0	5.6	6.6	6.6	60.0	73.2	69.7	72.7
Netherlands	3.9	7.7	8.2	8.3	33.3	76.6	79.3	78.3
New Zealand	4.4	6.4	7.2	5.5	81.8	82.8	83.3	80.0
Norway	3.3	6.7	6.6	6.4	78.8	95.5	98.5	96.9
Portugal	--	6.4	5.9	5.7	--	59.4	72.9	71.9
Spain	2.3	5.1	5.9	6.0	52.2	70.6	72.9	71.7
Sweden	4.7	8.0	9.5	9.4	72.3	90.0	92.6	90.4
Switzerland	3.3	7.1	7.2	7.9	60.6	66.2	65.3	68.4
United Kingdom	3.9	5.5	5.7	5.7	84.6	90.9	89.5	91.2
United States	5.2	8.4	9.2	10.7	25.0	42.9	42.4	41.1
OECD Average	4.0	6.9	7.1	7.3	60.0	75.4	77.5	76.7

SOURCE: Organization for Economic Cooperation and Development: Social Data Bank.

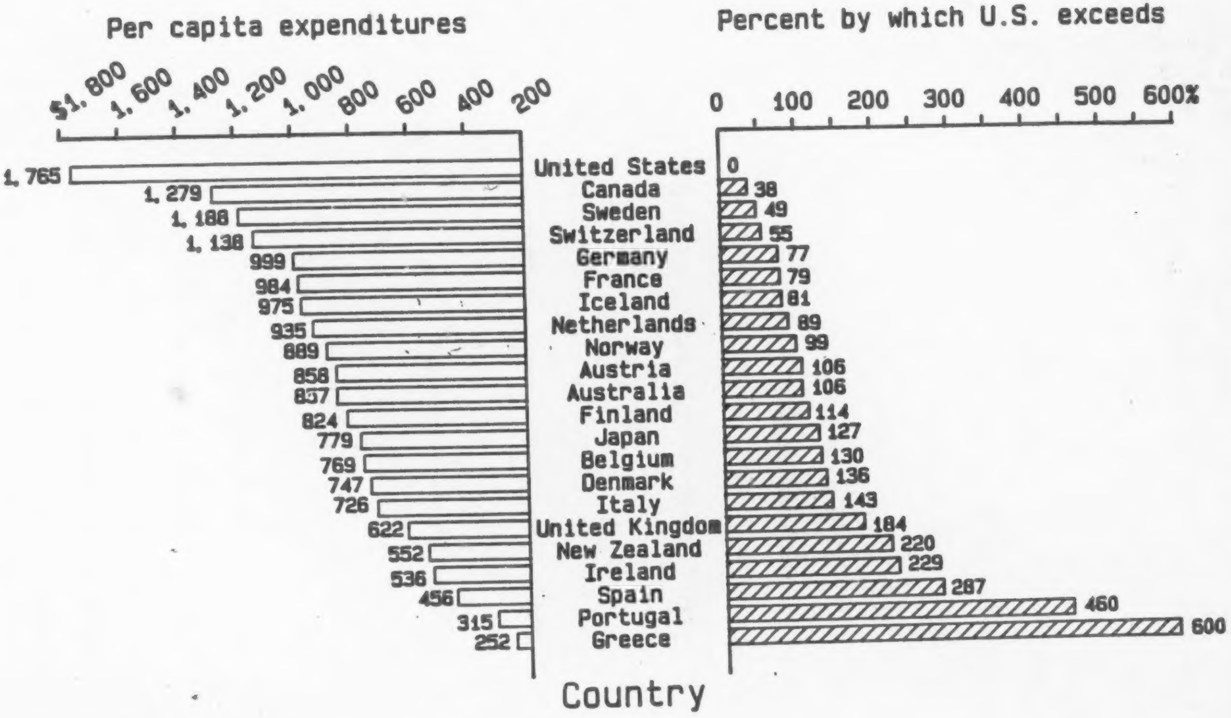
has increased from 5.2 percent in 1960 to 8.4 percent in 1975 to 9.2 percent in 1980 to 10.7 percent in 1985. The U.S. devotes the largest share of its GDP to health and its share is almost 50 percent higher than the OECD average.

Also of interest is the percentage of overall health expenditures that are accounted for by the public sector. Since most OECD countries have national health systems, it is not surprising that the public share of total health spending is higher in other countries. For the OECD countries as a group, public expenditures were 60 percent of total spending in 1960, 75 percent in 1975, and 77 percent in 1980 and 1985. For the U.S., the public share has increased from 25 percent in 1960 to 43 percent in 1975, and fallen to 42 percent in 1980 and 41 percent in 1985. In 16 of the 22 OECD countries, there has been no growth in the public share since 1980.

Absolute levels of health care expenditures among different countries can also be compared by denominating per person health expenditures in a common currency through the use of purchasing power parities, which are exchange rates that correct for price differences among countries. Figure 1 contains 1985 per capita health expenditures denominated in U.S. dollars and the percent by which U.S. health care spending exceeds spending in other countries.

In 1985 health spending in OECD countries ranged from $252 per person in Greece to $1,765 in the U.S. Spending in the U.S. was 38 percent higher than Canada, the second highest country; 49 percent higher than Sweden, the third highest country; 184 percent higher than the United Kingdom, the 17th ranked country; and 600 percent higher than Greece, the last ranked country.

Figure 1
Per capita health spending, 1985



SOURCE: Organization for Economic Cooperation and Development: Social Data Bank.

Differences in expenditures reflect underlying differences in prices as well as the availability and utilization of services. While the per capita expenditure figures presented above were converted into U.S. dollars using purchasing power parities which adjust for price level differences across countries, the resulting expenditure figures undoubtedly still reflect some residual price effects. However, given the difficulty of assessing these residual price effects, I will concentrate on utilization differences. Nevertheless, in comparing utilization differences, it should be kept in mind that observed differences in intensity and use of services may reflect different underlying service definitions.

Despite these caveats, it is clear that availability and utilization of services differ substantially across countries. Table 2 provides information on the number of inpatient medical care beds and physicians per 1,000 population in the early 1980s. The number of inpatient medical care beds ranged from 5.1 per 1,000 population in Portugal to 15.5 in Finland, with an OECD average of 9.4. The U.S. is at the lower end of the spectrum at 5.9 beds per thousand. For physicians the range was from 1.2 physicians per thousand people in Ireland to 2.6 in Spain and Belgium with an OECD average of 2.0. The U.S. with 1.9 physicians per thousand population is slightly below the OECD average.

Use of services and service-specific expenditures also vary substantially across countries. Since hospitals represent the largest health expenditure, it is of interest to examine differences in hospital use and expenditures. Table 3 provides information for the U.S. and 5 of the largest OECD countries on average length of stay, inpatient days per capita, and hospital expenditures per day and per admission.

Table 2

Inpatient Medical Care Beds and Physicians Per 1,000 Population, 1980s

Country	Physicians	Beds
Australia	1.9 (81)	11.0 (81)
Austria	1.7 (83)	10.8 (83)
Belgium	2.6 (81)	9.5 (82)
Canada	1.9 (82)	6.9 (82)
Denmark	2.4 (82)	7.4 (83)
Finland	2.2 (83)	15.5 (82)
France	2.2 (83)	11.6 (83)
Germany	2.4 (82)	11.1 (82)
Greece	2.5 (81)	6.2 (81)
Iceland	2.2 (81)	11.1 (82)
Ireland	1.2 (75)	9.7 (80)
Italy	1.3 (83)	7.7 (83)
Japan	1.4 (82)	12.1 (83)
Netherlands	2.1 (83)	12.0 (83)
New Zealand	1.7 (83)	9.9 (83)
Norway	2.0 (81)	6.5 (83)
Portugal	2.1 (81)	5.1 (82)
Spain	2.6 (81)	5.4 (81)
Sweden	2.4 (83)	14.0 (83)
Switzerland	1.6 (81)	11.5 (82)
United Kingdom	1.3 (81)	8.1 (81)
United States	1.9 (81)	5.9 (81)
Average	2.0	9.4

Source: Financing and Delivering Health Care, OECD, Paris, 1987, pp. 64 and 73.

Table 3

Hospital Expenditures and Use, 1982

	Use		Expenditures	
	Days Per Capita	Average Length of Stay	Per Day	Per Admission
Canada	2.1	14.4	$210	$ 3,020
France	2.8	14.0	170	2,380
Germany	3.4	18.6	110	2,050
Japan	3.8	53.2	60	3,190
United Kingdom	2.3	17.8	140	2,490
U.S.	1.6	9.6	360	3,450
Average	2.7	21.3	175	2,760

Source: Derived from Table 26 of Financing and Delivering Health Care, OECD, Paris, 1987, p. 63.

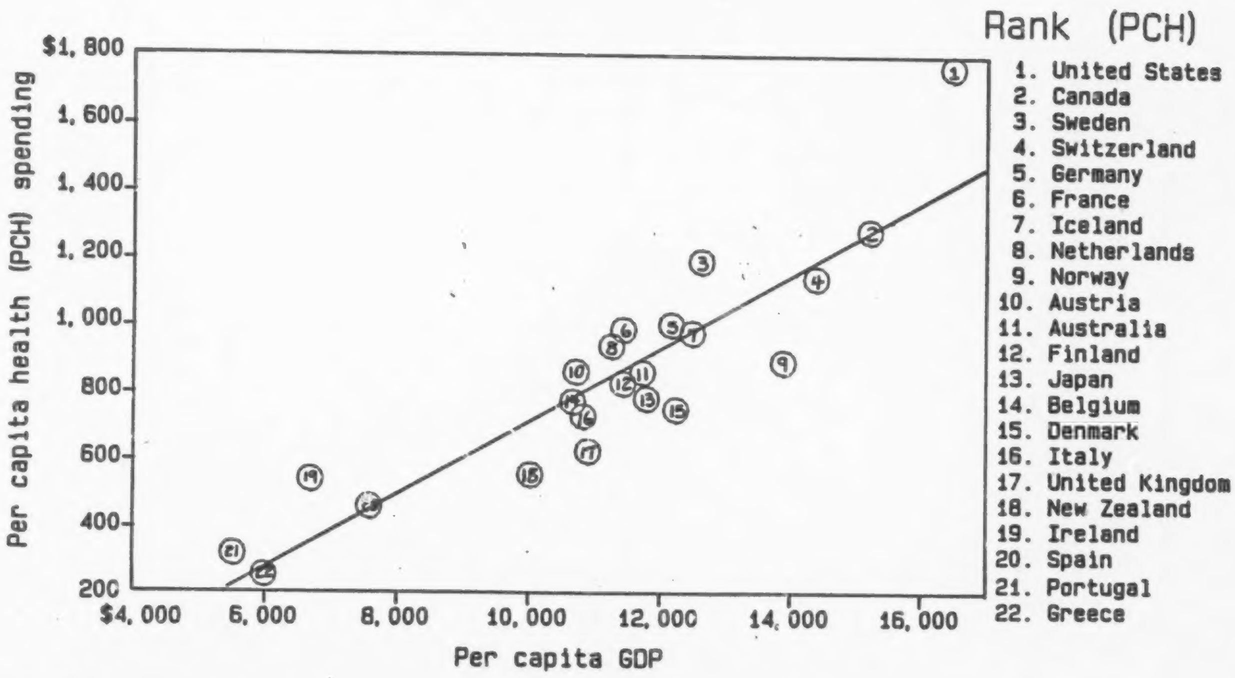
These data must be interpreted very carefully, since the definitions of hospitals are not consistent across countries (in terms of institutions classified as hospitals as well as inclusion of capital and outpatient hospital expenditures), and the utilization and spending data are sometimes derived from different sources.

The information in Table 3 indicates that the U.S. has the lowest hospital use both in terms of days of care per capita and average length of stay per admission. On the other hand, U.S. expenditures per day and per admission are substantially higher than those in the other countries. This could suggest that the intensity of services per day and per stay is higher in the U.S. than in other countries. It could also suggest that amenity levels are higher (e.g., more private and semi-private rooms) and/or that there is great inefficiency and waste in the U.S. system. Unfortunately, given our current inability to measure these factors, and more critically, our inability to measure outcomes, it isn't possible to make specific inferences about the performance of the American hospital sector relative to those in other countries.

Policy Implications

In analyzing the types of information presented here, one key question is what are the implications of these differences and trends for the U.S.? Unfortunately, it is difficult to draw firm policy conclusions. The U.S. spends more on health care than any other country in the world. Since we are one of the richest countries in the world, this isn't surprising. Indeed, Figure 2 shows the very strong relationship between a country's economic well-being, as measured by per capita GDP, and per

Figure 2
Per capita health spending and per capita GDP: 1985



SOURCE: Organization for Economic Cooperation and Development: Social Data Bank.

capita health spending. There is a strong direct relationship. Wealthier countries spend relatively more on health care than poorer countries. A 10 percent difference in per capita GDP is associated with a 15 percent difference in per capita health spending. Nevertheless, the U.S. lies well above the trend line, indicating spending well-above the average upward relationship for the OECD countries as a group.

The critical question is what are we getting for this higher absolute and relative spending? Are Americans getting better quality care, more amenities, and/or are we simply more wasteful?

Unfortunately, it is difficult to associate high U.S. health expenditures with better outcomes for several reasons. First, one cannot "hold constant" or adjust for all the factors previously discussed that can influence the use and provision of health services in different countries. Second, existing health outcome measures are too aggregate to provide detailed insights into relative performance. For example, Table 4 lists 1986 infant mortality rates and rankings for the same 22 OECD countries. While the U.S. ranks first in terms of spending, it ranks 20th with respect to infant mortality. Countries that spend far less than the U.S., such as Japan and Finland, perform much better with respect to infant mortality. Similar observations can be made with respect to life expectancy and other mortality measures.

On the other hand, nosocomial infection rates—hospital induced infections—are about 4 percent of admissions in the U.S., 7 percent in France, and 10 percent in

Table 4

Infant mortality rate - 1986
(Deaths per 1,000 births)

Country	1986	Rank
Iceland	5.1	1
Japan	5.5	2
Sweden	5.9	3
Finland	6.3	4
Netherlands	6.4	5
Switzerland	6.8	6
Canada	8.0	7
France	8.0	7
Denmark	8.4	9
Norway	8.5	10
Germany	8.6	11
Ireland	8.7	12
Spain	9.4	13
United Kingdom	9.5	14
Belgium	9.7	15
Australia	9.9	16
Italy	10.1	17
New Zealand	10.2	18
Austria	10.3	19
United States	10.6	20
Greece	12.2	21
Portugal	15.8	22
Average	8.8	--

SOURCE: Organization for Economic Cooperation and Development: Social Data Bank.

the United Kingdom. In other words, at least for these 3 countries, quality of care as measured by lower rates of hospital-induced infections would appear to be directly related to health spending. Yet, we still have no idea about which system ultimately produces "more health" per dollar, franc, or pound spent.

Before concluding, Mr. Chairman, I would like to provide my perspective on the transferability of policies across countries. While all countries are looking for mechanisms to improve the performance of their health systems, limitations in data, different underlying social and economic structures, and basic philosophical differences may preclude the successful transfer of policies from one country to another. To take but one example, let's discuss the potential applicability of HMOs in other systems. HMOs have been implemented on a large scale in this country and extensive research and evaluation suggest that HMOs improve efficiency without any detrimental effects on quality of care. While many OECD countries are exploring the use of HMOs, transference of this concept to other systems raises issues such as whether the transfer of risk from the government to the HMO or consumer is consistent with the social solidarity/welfare state principles inherent in certain systems and whether these systems contain the at-risk reimbursement arrangements across provider types to allow the inherent incentives in HMOs to work. I do not mean to suggest that HMOs couldn't be or aren't relevant for other countries. I am merely suggesting some of the difficulties inherent in transfering policies from one system to another with entirely different economic, structural, and philosophical underpinnings. Conversely, I do not believe that most Americans would accept the freedom of choice limitations, rationing of technologies, queues, lower amenity standards, and higher tax burdens inherent in many other health systems.

In concluding, I would like to make several points. First, from a methodological perspective, more comparable data and standardized definitions are clearly needed for making meaningful comparisons at a micro level. Second, there are sizeable differences in spending and utilization across countries that, in my view, cannot be "written off" due to data problems. Central to these differences are variations in medical practice, both within and across countries. Until we have a better understanding of the appropriateness and effectiveness of medical care, and concomitantly, better measures of health outcomes, it will be difficult to make strong statements about the performance of health systems.

I will be happy to respond to any questions that you may have.

Representative **Scheuer**. Thank you very, very much, Mr. Schieber. That was very stimulating and thought provoking.

Dr. Silver, who is professor emeritus of public health at Yale University School of Medicine, and who has been a counselor and adviser and a fountain of knowledge for this Congressman going back at least two decades, I'm sorry to say for both of us.

STATEMENT OF GEORGE A. SILVER, M.D., EMERITUS PROFESSOR OF PUBLIC HEALTH, YALE UNIVERSITY SCHOOL OF MEDICINE

NATIONAL HEALTH CARE IN EUROPE

Dr. **Silver**. Thank you very much, Congressman Scheuer, for inviting me here to present my views which you know are somewhat different from those that have been expressed by some of the people who have come here before you. I'm not an economic determinist and I don't consider cost control more than a symptom of a defective system and unless there are structural changes the flaws will manage to overcome any kind of steps you intend to take in cost control.

Now you assigned me the task of discussing some of the national programs of Europe and what kind of implication they have for the American scene. I think that European experiences in organization and financing illustrate the positive impact systematic governmental intervention and management on access to medical care, fiscal responsibility and quality can make. It should be clear, though, that this does not mean that the systems displaying these qualities are necessarily less costly, or consume a lesser proportion of the gross national product than the American system of medical delivery and financing. What the European systems do is provide better value for the money spent in the assurance of receipt of appropriate and timely medical care.

And in addition, the European systems provide social and welfare support, which the American system does not, to all families in which case some of the need for medical care may be dissipated and those costs are not included in the health cost that should be considered.

Most Western European nations carry out their medical care role along public-private partnership lines, based on medical care insurance principles, in which the Government's budgetary contribution is a part—a very significant part, but only a part—and not the total source of funding. To this end, a quasi-governmental, nongovernmental agency (termed "quangos") is the medical care insurance carrier charged with collecting and disbursing funds for medical care services. In effect, this "company" plays the role of arbiter of the medical care system, deciding on facilities, payment schedules, and distribution of resources. There are a number of councils that reflect the interests of the various parties that assist them or that provide the company with backing for the decisions it makes about capital costs, payment levels, salary scales, and so forth.

Although final decisions are not entirely made at the parliamentary level, there is a parliamentary decision role because there's a ceiling on the total costs. And negotiations between professional groups and the insurance carrier will determine wage levels, which means that if insurance premiums are increased additional government support is required.

This distinction between control of costs through parliamentary action and more limited governmental participation in the process is very much in conformity with U.S. practice.

Representative SCHEUER. U.S. practice?

Dr. SILVER. Well, political practice is what I mean, not medical. In the case of European insurance, the "quangos" adopt a more authoritative function than the fiscal intermediaries do in medicare in the United States. There's less regulation of medical practice there than in the United States because the controls are jointly agreed upon in the negotiations between the representative professional organizations and the insurance carrier.

THE DUTCH EXAMPLE

The level of performance among different countries will vary considerably, as Mr. Schieber pointed out; but on the other hand, there's a great similarity in the way in which they operate. I will discuss the medical care payments system in the Netherlands for a moment. I would point out that it has both a voluntary and compulsory element. For those who are employed and whose income is below a certain sum, employer and employee pay a premium into one of three designated insurance companies. This is for ordinary illnesses. And there's a separate Sickness Fund Act that covers ordinary illness. Then there's a government share that's also paid into that fund which varies from year to year.

In addition, there's another insurance fund under the Exceptional Medical Expenses Act which provides for payment for long-term hospital stays and nursing home care for the physically and mentally disabled, irrespective of income level. And it also pays for certain specialized facilities.

Representative SCHEUER. Excuse me, Dr. Silver. I have an emergency in another committee where I must show up for a committee vote, so I'm going to suspend for about 10 minutes, with your indulgence, and I'm very sorry to do this and I'll be back hopefully in 10 or 12 minutes.

Dr. SILVER. Do you want me to continue reading the document?

Representative SCHEUER. Absolutely not. That would be an act of gross discrimination. We listen to you and if we're not here we can't listen.

Dr. SILVER. OK. I'll wait.

[A 10-minute recess was taken.]

Representative SCHEUER. I apologize for the interruption, Dr. Silver. Please proceed.

Dr. SILVER. I was starting to discuss the medical care payments system in the Netherlands, which includes both voluntary and compulsory types of coverage. For those who are employed and whose income is below a certain sum, the employer and employee pay a premium into one of three designated insurance companies. This is for ordinary illnesses and is covered by the Sickness Fund Act. The Government pays a part of that which varies from year to year.

Then there's a long-term care insurance, under the Exceptional Medical Expenses Act, which covers nursing homes, long-term hospital stays, the physically and mentally disabled, and specialized facilities for the blind and the deaf as well as ambulatory mental health services, and this is irrespective of income level. The premiums for this fund come from employers and government. "Government" means not only the central government, but the provincial and local government contributions as well.

The 30 percent of the population not covered under the Sickness Fund Act can buy into private insurance companies at the same fixed premium. All policies, voluntary or compulsory, offer the same scope of services. In addition, individuals, even those covered by compulsory insurance contracts, may purchase added, inexpensive private insurance policies that will upgrade hospital bed status, in which case the specialist fee to the patient will be higher.

The Government has a number of councils which negotiate the fees and the charges. There's a central agency for health care tariffs and all the parties concerned are represented. The facilities continue to be privately controlled, more or less like our voluntary hospital system.

Hospitals are paid per diem. Family doctors are paid a capitation fee for the sickness fund patients, which includes his "net" plus a sum for overhead and pension. The patients who are privately insured pay the doctor the same fee and then must be reimbursed by the insurance company. Family doctors are the "gatekeepers" for the medical care system. Specialists are paid fee for service, according to the arranged fee schedule. Physicians' income is quite high. In the United States, physicians average five to six times the median national income. In Holland in 1981, a survey suggested that the doctors earned seven to eight times the median national income.

In addition to the insurance funds described, there is a peculiar Dutch medical care service system for preventive services and home visiting—the Cross Societies. These are organizations which were established in the 19th century and they offer bedside care, home visiting, immunizations, education for the new mothers and the children, and home help for the homebound and maternity help for mothers. Since half the childbirths are at home attended by midwives, this home help service for maternity service is important support for the family and allows for health education and encourages reliance on the public health system in the country. Members pay a fee to the society of their choice and the Government subsidizes the services.

A national health council deals with planning for resources and facilities. The programs are regionalized and the responsibility for planning and supervision are decentralized and lodged in a municipal or provincial government.

And there's a corollary medical care payment council, the Association of Dutch Sickness Funds which decides how the funds are to be distributed.

Nothing better illustrates the democratic equality that marks Dutch society than the health and medical care services that surround children, from before birth, through the school years, right up to adult status. Holland considers more than doctors and hospital services in recognizing what needs to be done for health care.

I have a discussion in my prepared statement of all the services that are covered in the social aspects of Dutch care and I point out that the adult citizen of the Netherlands has been given a fair shake in the course of being born and brought up in that country.

The proportion of the GNP devoted to the health system is just about what it is in the United States, a little less, and it has risen at just about the same rate over the past decade in line with what Mr. Schieber said with the rising income in the country. But I do not consider that a defect inasmuch as I do not have a figure, nor can anyone factually provide a precise optimal figure, or percentage of the GNP that ought to be spent on a national health program. Proportional expenditures may be the same in both countries, but the distribution of services is equitable in one and skewed in the other. It may be that some degree of oversupply of resources, overuse of technology, professional "glut," overpayment for services may be infecting the Dutch system as it does the American system. But the infant mortality rate in Holland is one of the lowest in the world, while that of the United States is among the highest in the Western world.

To my mind, the key factors that distinguish the Dutch system from ours are universality and equity of access, maintenance of quality and satisfaction of the people, professionals and the Government with their system. And I have some notes here on some current cost control measures in Europe with special reference to the Dutch that they did introduce budget ceilings for hospital costs in 1983 and ceilings on total reimbursement for specialists, with the threat of proration if their charges do not moderate.

Generic prescribing was introduced at the same time but it was a recommendation, not a regulation. The principal cost control items are aimed at proposals for alternatives to hospital care, construction of nursing homes and day care centers, more home nurses and maternity nurses, and a reduction of the ceiling on the patient list for family doctors. They can only have a limited number.

LESSONS FROM EUROPE

The final point I'd like to make is that if the Government promises anything in the way of medical care services, availability, access, quality, the Government must assure both availability and quality. And I think that in the Netherlands this is exemplified by an overall supervisory department, the Office of the Inspector General, which is also in the Ministry and parallel with the Office of the Surgeon General. That office has subsidiary offices in the States exactly paralleling the public health officials, but reporting to the Inspector General.

I would conclude by saying that the European health insurance schemes do not demonstrate necessarily more effective cost control beyond introducing measures similar to and perhaps more extensive than those attempted in the United States. What the systems do demonstrate is the ability to use a similar financial investment for a better distribution of services, more equity and better supervision in a comprehensive system offering universal eligibility and access to medical care services.

Thank you, Congressman.

[The prepared statement of Dr. Silver follows:]

PREPARED STATEMENT OF GEORGE A. SILVER, M.D.

NATIONAL PROGRAMS OF MEDICAL CARE ORGANIZATION AND FINANCING[1]

European experiences in organization and financing for the delivery of medical care services, illustrate the positive impact of systematic governmental intervention and management on access to medical care, fiscal responsibility and quality in those services. It should be clear, though, that this does not mean that the systems displaying these qualities are necessarily less costly, or consume a lesser proportion of the gross national product than the American system of medical delivery and financing. What the European systems do is provide better value for the money spent in the assurance of receipt of appropriate and timely medical care.

As you will no doubt hear regarding the British National Health Service, that almost wholly governmentally funded system arbitrarily adopts a ceiling on expenditures that reflects the government's commitment to its budget. This means that the response to need for care, whether it is rationing of services by age or scope, or delay in meeting medical care demands, or modernization of equipment and facilities, is decided in political rather than market terms. The decisions, as in the usual parliamentary governmental form, turn on electoral politics at that. Not only the size of the budgetary allocation to the health sector and the medical care system, but the constituent elements of the operation of the system, like wage policy, staffing, reimbursement of professional groups, will be determined by the party in power. Expenditure is controlled by parliamentary appropriation, so that the variety of constraining measures that have been instituted in the US are unnecessary. Medical practice is paradoxically much freer than in the US, since the doctors do not have to seek permission for or justify their medical decisions - they can only order what is available. The quarrel, if there is such, is between the patient and his elected officials, not with the medical care system.

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[1] Prepared for submission to the Subcommittee on Education and Health of the Joint Economic Committee of the United States Congress on May 3, 1988.

Most Western European nations, however, carry out their medical care role along public-private partnership lines, based on medical care insurance principles, in which the government's budgetary contribution is a part - a very significant part, it is true, but still only a part - and not the total source of funding. To this end, a quasi-governmental, non-governmental agency (termed a "quango") is the medical care insurance carrier, charged with collecting and disbursing funds for medical care services. In effect this "company" plays the role of arbiter of the medical care system, deciding on facilities, payment schedules and distribution of resources.

Although final decisions are not made entirely at the parliamentary level, there is a parliamentary decision role. Negotiations between professional groups and the insurance carrier will determine wage levels, for example, which means that insurance premiums will have to be increased, and/or additional government support will be required. In this latter case, parliament will have to be involved in the decision making, increasing appropriations and taxes as necessary. Since governmental representatives also sit on the "quango" board, the conclusion of negotiations does imply governmental approval and the budgetary allocation will be (theoretically!) assured.

This distinction between control of costs through parliamentary action and more limited governmental participation in the process is more in conformity with US practice. There is a real difference, though, in the degree to which the doctor is regulated by state orders. The "quangos" adopt a more authoritative function than the fiscal intermediaries do in Medicare in the US. In the case of the European insurance based medical care systems, there is less governmental regulation of medical practice than in the US, because the controls are jointly agreed upon in the negotiations between the representative professional organizations and the insurance carrier.

These comments refer to nearly all Western European countries, but for a variety of historic reasons the level of performance among the different countries varies considerably with respect to costs and coverage. Time will not permit, nor is it necessary to sort out the virtues or deficiencies of each national program, but it may be useful to describe one in detail, and comment in passing on the problems or benefits of some of the others. I have chosen to discuss the health insurance system in operation in the Netherlands because I believe it to be fairly close structurally to what the US has been trying to achieve, in a country similar to the US in medical care resources, yet unlike the US, the Netherlands national program is fully comprehensive in scope, almost universal in coverage, with excellent quality controls.

THE MEDICAL CARE PAYMENT SYSTEM IN THE NETHERLANDS

Health insurance in the Netherlands includes both voluntary and compulsory coverage. For those who are employed, and whose income is below a certain sum (70% of the population is so covered), employer and employee pay a premium into one of three designated insurance companies. This is for ordinary illnesses, and is covered by the Sickness Fund Act (ZFW). There is a government share also paid into this fund that varies from year to year. The Exceptional Medical Expenses Act (AWBZ) provides for payment or long term hospital stays and nursing home care for the physically and mentally disabled, irrespective of income level. It also pays for specialized facilities for the blind and deaf, and for ambulatory mental health services. The premiums for this fund come from employers and government. "Government" means not only the central government, but the provincial and local government contributions as well.

The thirty percent of the population not covered by the ZFW Act can buy into private insurance companies. All policies, voluntary or compulsory, offer the same scope of services. In addition, individuals, even those covered by compulsory insurance contracts, may purchase added, inexpensive private insurance policies that will upgrade hospital bed status, in which case the specialist fee to the patient will be higher. The government is authorized by another act to negotiate fees and charges through a Central Agency for Health Care Tariffs, which includes among its members representatives of all the parties concerned in medical care services. Facilities are generally privately controlled, more or less like our voluntary hospital system.

Hospitals have been paid per diem, although the government is experimenting with global budgeting. Family doctors are paid a capitation fee for the sickness fund patients under their supervision. That fee includes his "net" plus a sum for overhead and pension. Patients who are privately insured pay the doctor the same fee, and must then be reimbursed by the insurance company. Family doctors are the "gate-keepers" for the medical care system. Specialists are paid fee-for-service, according to the arranged fee schedule. Physicians' income is quite high. In the US physicians's average 5-6 times the median national income. In Holland in 1981, a survey suggested that the doctors earned 7-8 times the median national income.

In addition to the insurance funds described, there is a unique and peculiar addition to the Dutch medical care system, covering preventive services, and home visiting. This is the Cross Society. These organizations, established in the nineteenth century to offer bedside care and home visiting for tuberculous patients, has grown into a service that also provides immunizations and home visiting for children, education for the new mother, home helps for the homebound and maternity help for recent mothers. Since half the childbirths are at home, and attended by midwives, this service is important support for the family and also allows for health education and encourages reliance on the public health system in the country. Members pay a fee to the Society of their choice, and the government subsidizes the services. Since 1977 the Cross Societies are closely bound in with and cooperate with the public health programs at the local, provincial and national level. Over 75% of the population is served by the Catholic (White-Yellow Cross), Protestant (Orange-Green Cross) and the non-denominational (Green Cross) Societies.

Because of the Dutch decision after throwing off Spanish hegemony in the 17th century, to maintain a harmonious community and not to allow religious antagonisms to undermine its affluent commercial situation, they have practiced a "separate and equal" social policy. Under this policy, Catholic and Protestant and non-religious or political groups may organize their own education, health service, radio and television channels and political parties, and receive equal political and necessary financial support from the government. So there are Cross Societies that represent each of the factions.

A National Health Council deals with planning for resources and facilities. Programs are regionalized, and the responsibility for planning and supervision decentralized. The decision-making moves upward, plans and recommendations made at the local level are forwarded centrally. The corollary for medical care payment is the Association of Dutch Sickness Funds (VNZ). This organization not only represents the funds but does the negotiation with providers and institutions, and maintains the National Sickness Fund Information System (health statistics).

> "(1) The central government fulfills a regulatory role in the development of general guidelines; (2) the COTG draws up specific guidelines advised by the chambers [its component representative groups:doctors, pharmacists, sickness funds etc]; (3) guidelines ultimately approved by the government; and (4) the government then issues definite directives..."[2]

Nothing better illustrates the democratic equality that marks Dutch society than the health and medical care services that surround children, from before birth, through the school years right up to adult status. Holland considers more than doctors and hospital services in recognizing what needs to be done for health care.

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[2] The quotation and the descriptions in this passage are drawn from "Health Services in the Netherlands", by Harman A Tiddens, Joep (P) Heesters and Joost (m) van de Zande in COMPARATIVE HEALTH SYSTEMS, ed by Marshall B Raffel. (University Park, PA, Pennsylvania State University Press, 1984) pp 371-418.

Additional excellent descriptions and information on the operation of the Dutch medical care system may be found in HEALTH INSURANCE BARGAINING, by William A Glaser (NY, John Wiley, 1978) pp 80-94; PAYING THE HOSPITAL, also by Glaser (San Francisco, Jossey-Bass, 1987) passim; and a photocopied draft document, FINANCIAL DECISIONS IN EUROPEAN HEALTH INSURANCE, William A Glaser. (NY, Graduate School of Management and Urban Professions of the New School for Social Research, 1986)

The Dutch provide paid maternity leave with guaranteed return to employment for expectant mothers. There are children's allowances, and family allowances, not means-tested AFDC programs, as well as housing allowances. Elected community youth committees and family courts with associated children's ombudsmen defend the children's legal rights and status. Nutritious breakfast and lunch are served in the schools. After-school programs look after the children of families in which both parents work, or in which there is only one parent in the household. True, a smaller percentage of married women work in Holland than in the US, but the principle is in place. These programs aim at allowing children to achieve the equality of opportunity that is the hallmark of democratic societies. Together with the universal medical care services and the preventive measures supplied by the public health system and the Cross Societies, children are protected and solicitously guarded against discriminatory social practices. The adult citizen of the Netherlands has been given a fair shake in the course of being born and brought up in that country.

It may not be the remit of this subcommittee, or the mission of the Joint Economic Committee, to suggest or recommend a universal eligibility medical care program for children. Perhaps it would be appropriate, though, to forward a message to the Select Committee on Children and Youth for consideration of such a program, modeled on the Dutch experience, including the social and preventive measures which are such an important element of their system.

The proportion of the GNP devoted to the health system in the Netherlands is just about what it is in the US (10+%) and it has risen at just about the same rate over the past decade. I do not consider that a defect inasmuch as I do not have a figure, nor can anyone factually provide a precise optimal figure, or percentage of the GNP, that ought to be spent on a national health program. Proportional expenditures may be the same in both countries, but the distribution of services is equitable in one and skewed in the other. The proportion of physicians and that of hospital beds to the population is similar. It may be that some degree of oversupply of resources, overuse of technology, professional "glut", overpayment for services may be infecting the Dutch system as it does the American system. But the infant mortality rate in Holland is one of lowest in the world, while that of the US is among the highest in the Western world.

To my mind the key factors that distinguish the Dutch system from ours are universality and equity of access, maintenance of quality and satisfaction of the people, professionals and the government with the Dutch medical care system. This is not to say that the Dutch system is flawless and without correctable defects. The multiple insurance carriers, differences in costs to different socio-economic groups, probably increase costs unnecessarily. In my opinion the medical care system, like all social systems, ought to have to have as much redundancy built into it as a weapons system does, a kind of social "fail-safe" mechanism, to assure the clientele and the operators that no boorish bureaucratic refusal for those seeking medical care will be justified by some arbitrarily determined shortage. With that in mind, in reviewing and analyzing the American medical care system, it is not only the percentage of the GNP that ought to be taken into account, but what is bought with that money. Whatever is to be done in cost control, ought not be at the expense of patient access, patient satisfaction, quality of care.

SOME CURRENT COST CONTROL MEASURES IN EUROPE

The world-wide economic decline of the past decade, accompanied by seemingly uncontrollable inflation of medical care costs in all countries, not just in the US, has compelled governments to take cost control measures. It has also given rise to innumerable conferences and discussions on the future of the welfare state generally, and a multitude of recommendations for action in modifying the medical care financing system, in particular. Where the gaps in organization and structure of the system have been greatest, governmental steps taken have been the most stringent. Cost containment measures in various countries are listed according to focus in Abel-Smith's succinct compendium, as follows:

SHORT TERM DIRECT CONTROLS:
  Budget controls; limitation of staff;ceiling on remuneration;price controls; quantitative restrictions.
SHORT TERM INDIRECT CONTROLS:
  Reducing values of fee schedules; generic prescribing;monitoring doctors' services.
MEDIUM TERM DIRECT CONTROLS (INCENTIVES):
  Capital cost controls; substitute and alternatives to institutional care.
LONG TERM DIRECT CONTROLS:
  Limitation of numbers of physicians and specialists.
COST SHARING:
  Inpatients; doctor visits; pharmaceuticals outside hospital; various lesser elements e.g. - spectacles, transportation, physiotherapy

European governments have always had more control over hospitals than the US has, in many instances hospitals were almost entirely government institutions, and so budget ceilings, staffing and capital construction controls have been easier of accomplishment there and without overceremonious regulations. Nor have the European governments been as respectful of the doctors' charging privileges, so that more direct and less voluminous control measures have been utilized there.

The Netherlands introduced budget ceilings for hospital costs in 1983; and ceilings on total reimbursement for specialists, with the threat of eventual proration if their charges did not moderate. Generic prescribing was introduced at the same time, but as a "recommendation", not a regulation. The principal cost control items were aimed at proposals for alternatives to hospital care:construction of nursing homes and day care centers, more home nurses and maternity nurses training opportunities, along with reduction of ceiling on patient list for family doctors.3

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3 COST CONTAINMENT IN HEALTH CARE, Occasional Papers on Social Administration #73, Brian Abel-Smith. (London, Bedford Square Press, 1984) pp 21-33 and with reference to the Netherlands specifically, pp 78-81.

WHY UNIVERSAL ELIGIBILITY? WHY NOT TWO SYSTEMS - ONE FOR THE EMPLOYED WHO PAY PART OR ALL THE COST; AND ONE JUST FOR THOSE PEOPLE WHO CAN'T AFFORD TO OBTAIN PRIVATE MEDICAL CARE?

It ought to be recognized, both from our own and from the experiences of other countries, that half-way measures are not only inadequate, but very often are counter-productive. When rigid, or stringently enforced means tests are imposed, marginally eligible, or rather ineligible citizens and their families will fail of obtaining needed services despite the piddling difference between their income level and that of those considered eligible. The time and energy, and the added costs devoted to administration of the means tests would serve far better purpose in providing the needed care. Moreover, governmental credibility and reputation for equity and fair-mindedness are at stake. The bureaucratic demand or rejection in such behavior makes a negative contribution of officiousness to the picture of government in the popular mind.

Corollary to this is the impact that selective eligibility has on the attitudes and behavior of those providing care. When I was a family practitioner of medicine in the late 1930s, a physician was expected to look after the poor in his practice, with little or no charge, and reduce charges to the elderly or to any families with limited incomes. Doctors boasted a bit about the high or low percentage of uncollected bills. In the year before I entered the Army, 1941, I had 30% of unpaid charges on the books, which not only were never collected, but were not expected to be collected. That was the doctor's contribution to social need. The federal and state contribution, the so-called Federal Emergency Relief Act and correlated State Emergency Relief Act, provided so little reimbursement that many doctors never even filled out the complicated claim forms. The original $1 per visit allowed had been prorated to $.25 by 1939. Hospitals also donated services to the poor and to those with limited resources. These so-called "charitable" contributions were the basis for the recruitment of wealthy citizens to the boards of the voluntary hospitals. Their contributions each year made up the difference in budgeting between collected and uncollected charges.

Since the 1960s, when government has begun to take responsibility for reimbursement for medical care services to the poor and the elderly, the attitude has changed markedly. Both hospitals and physicians now expect to be paid for all their services, if not by government then by the individual served. This is reflected in the behavior of doctors and hospitals in numerous ways. There is the shockingly small percentage of physicians who will accept Medicaid - the poorest of the poor - patients. There is the dunning of individuals through uncompromising and threatening collection agencies by doctors and hospitals (even public hospitals). There is the scandalous "dumping" of patients onto the public wards by many voluntary hospitals, even when the patient's condition should prohibit such delaying tactics. There is the refusal of doctors to take assignment of payment for Medicare patients thus forcing the elderly patient, no matter how income straitened he may be, and not the much more income-cushioned doctor, to wait for reimbursement six months or longer from a procrastinating insurance company. There is "balance billing" by doctors, in which no matter what the Medicare reimbursement is the physician demands added sums from the patients.

There is also the matter of responsibility which can only be discharged by solicitous monitoring of public programs and sound accountability on the part of the participants.

If government promises availability and quality in medical care services, then government must assure both availability and quality.

The medical care program in the Netherlands, for example, has an overall supervisory department - the office of the Inspector General. This office is not in the office of the Surgeon General of the Public Health Service, but parallel to it, in the same Ministry and at the same level of status in government. That office has subsidiary offices in the states exactly paralleling the public health officials, but reporting to the Inspector General.

In sum, then, European national health insurance schemes do not demonstrate more effective cost control, beyond introducing measures similar to, and perhaps more extensive, than those attempted in the US. What the systems do demonstrate is the ability to use a similar financial investment for a better distribution of services, more equity and better supervision in a comprehensive system offering universal eligibility and access to medical care services.

Representative SCHEUER. Thank you very much, Dr. Silver. I'm sure we'll have questions for you at the end of the panel.

We will now hear from Uwe Reinhardt, who is presently a professor of economics and public affairs, at the Woodrow Wilson School of Public and International Affairs at Princeton University. Mr. Reinhardt, please proceed.

STATEMENT OF UWE E. REINHARDT, JAMES MADISON PROFESSOR OF POLITICAL ECONOMY, WOODROW WILSON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS, PRINCETON UNIVERSITY

Mr. REINHARDT. Thank you, Mr. Chairman. It's an honor and a privilege to be here and to share with you my thoughts on international comparisons on health expenditures.

I have a prepared statement which I hope will be part of the record.

Representative SCHEUER. They will all be printed in full in the record.

TWO MEASURES OF COST: RESOURCE VERSUS MONEY FLOW

Mr. REINHARDT. In my prepared statement, I make a distinction between two measures of costs. One is the transfer of real resources from providers to patients—the hours, the hospital beds, the Band-Aids, the pills. The second flow is the money transfer from patients or those who pay for them to the providers. Figure 1, in my prepared statement, illustrates the two flows. Obviously, the health system exists not only to serve sick people. It also exists to provide other people with an income. Thus, the health system is driven as much by the income needs of entrepreneurs, professionals, and other health workers than it is by the medical needs of sick people. And there is a constant conflict between the two. That's the first point I would like to register with my prepared statement.

The second point is that the percentage of GNP that goes to health care is really the money-flow measure. By itself that measure tells us actually very little of what patients get in return for that money flow. In the United States, between 1980 and 1987, the percent of GNP going to health increased from 9.4 to 11.2 percent of the GNP. That number tells us that we carved out that large a slice out of our GNP and gave it as a reward to the providers of health services. What patients got for that reward in return is anybody's guess. We simply do not know. The best we could do in this respect would be to count the number of hospital days or physician visits patients received then and now; but these input numbers would tell us little about what added health improvements were actually brought about with them.

In table 3 of my prepared statement, I cite numbers from the Colorado Hospital Reporting System. There, for example, you will see that while expenditures for inpatient charges for the entire Colorado hospital system went up by 10 percent between 1983 and 1985, the number of admissions actually went down by 10 percent. I include this table merely to dramatize the point of how different the financial flows and the real resource flows in health care can be. For all we know, in Colorado, the money flow to providers increased while the real resource flow to patients decreased, even after we adjust for the resource intensity per admission.

That is an important point to keep in mind also when we examine international comparisons. Canada spends only about 8.5 percent of its GNP on health care and we spend over 11 percent. What this really means is that we carve out 11 percent of the GNP and give it as a reward to the providers while Canadians carve out only 8.5 percent. What difference these numbers actually made to patients at this time is anybody's guess. Traditional health status indicators, as has been brought out earlier today, do not show much difference. Whether the quality of life in the United States is that much better than it is in Canada is something we could debate. They have universal access to health care in Canada and share their health resources more equitably than we do. We now have 37 million uninsured in our midst, and many of these find access to health care a difficult and uncertain prospect.

WHY THE UNITED STATES HAS MOST EXPENSIVE SYSTEM

The American health system is now the most expensive such system in the world for at least three reasons.

First, it appears—and I say it appears because I do not know it in every instance—that our system uses more real resources per capita in the treatment of patients than do other nations. We are known for throwing resources at patients. For example, we have already heard that we have very high staffing ratios in our hospitals. We test for anything conceivable. A test gets done for a medical condition in part out of malpractice fear, in part because patients insist on the tests, and in part, I'm sure, because the tests do provide income for the providers. In short, then, we are more resource intensive in the treatment of given medical conditions, and that is one reason why our health care is so expensive.

Second, in the prepared statement I advance the hypothesis that the American health system is without question the most bureaucratic health system in the world. There cannot be another system that processes as much paper per medical encounter as our system does. It reminds me of the Vietnam war, where it was said that for every fighting soldier there were 10 logistics people. Well, there is such a ratio in health care. We can define it as the hours of labor spent in processing paper for health care to the hours of labor spent on making health-care products or actually caring for patients. Call this the B factor, where "B" stands for bureaucracy. I am convinced that the American health system has the highest B factor in the entire OECD. No country in the OECD employs as many indirect health workers as we do. Indeed, if we describe to foreigners the way we administer medicare, the polite ones sort of turn away and snicker; the less polite ones laugh out loud.

In short, I think we count a lot of resources which we count as health expenditures that do nothing for patients at all. In addition, as Secretary Califano testified, we also apply resources to patients in a way that not only does not help them but may, in fact, hurt them. Those are the unnecessary coronary bypasses and so on he talked about in his presentation.

Finally, the third cost driver in our health system is that we pay some providers of health care resources relatively more generous monetary rewards than do other countries do who drive harder bargains with their providers. We will hear from our Canadian colleague that harder bargains are driven there with health-care professionals.

In my prepared statement, I offer the all-American health care bill: For health services rendered, $100; surcharge for "pluralism," $20; total bill, $120.

Now the $20, the bureaucracy, the paper pushing, the awesome army of nonhealth workers all are necessary to preserve what we cherish so much in American health care; namely, "pluralism." As someone not born in this country and not yet properly acculturized to its cultural nuances I must confess that I have no idea what that "pluralism" is. Nor do I have any idea what it is worth. I'm not sure I would voluntarily pay that much for it, but I respect my American colleagues who tell me it is a wonderful thing and well worth paying for. And as a policy analyst, I'm obliged to respect that American sentiment.

Representative SCHEUER. Supposing we freed you of any label, as an immigrant or as a policy analyst, and asked you for an objective decision just based on cost effectiveness and effectiveness of care. What would you say that extra $20 on top of $100 represents? What would you do about it?

Mr. REINHARDT. Well, if I had my druthers, I would simplify the system, take that $20 of overhead and make sure that every American child would have access to adequate preventive and acute health care when needed. I would make sure that every American mother who has a screaming child in her arms and wants advice would have a right—yes, right—to get access to the health care she feels that is needed. I would make sure that elderly people do not go bankrupt as they access health care, as some of the poor elderly now do. Those are the alternative things we could do with this bulging overhead, but it would mean, if you wanted for the same amount of money to be that humane, you would have to give up a little bit of this mythical commodity called "pluralism." A commodity, as I mentioned, whose true nature I am unable to grasp.

Representative SCHEUER. As long as you brought it up in your testimony, why don't you tell us what it is? What is this component of the health care system that wastes a fifth or sixth of all the dollars we spend?

Mr. REINHARDT. It includes, for example, the extraordinarily large number of options among competing health insurance plans. Apparently we, as Americans insist that we should have literally hundreds of companies from which we can choose—Federal employees apparently can choose among 400 such options. We spend hours upon hours on choosing among alternative options. The insurers spend hours upon hours printing paper advertising their options to us, and running around marketing them to us. If we then insure, we spend hours upon hours sending in claims. They spend hours upon hours looking at these claims, sending them back on many occasions for further detail. We then spend hours upon hours fighting to get claims paid.

Physicians in America will tell you that at least one of their employees is employed solely just to process the myriad of different insurance forms physicians must fill out. They do not need that at all in Canada. In Canada a physician will for that reason alone have one less staff. Those are all paper-pushing resources, the ingredients of our high B factor.

I would say that the computer system of a good American hospital probably has the same capacity as the computer system that administers the health insurance scheme of the entire Province of Quebec because I've seen that one and it wasn't all that big, and it doesn't have to be that big. Canadians have a little plastic card like an American Express card, they go to the doctor and they fill it in like an American Express card with diagnosis and fee, and that's all the patient has to do. Here, unfortunately, I'm not intelligent enough even to handle this chore. My wife does all that and she shows me the forms she must complete every year. She has a file that thick and we are a healthy family. I hate to even think what it would be like otherwise.

So this is all very resource using; but my fellow American economists tell me that it is a wonderful way to buy efficiency and quality. You really ought to get one of them here to explain to you just how that really works. Having lived in Canada, I am persuaded that much of the much vaunted American pluralism actually spells "waste." It's a particularly sorry waste, when I think of the uninsured and the elderly that suffer, when you read in the paper that a lady with a bullet in her back waits 13 hours for surgery because she's not insured and sundry empty hospitals nearby won't take her. People know that I feel that way, but I feel tonguetied because I wasn't born here and obviously what I see clashes very much with the social ethic in which I was reared. But you asked me to be frank, and so I tell you, frankly, what I really think about "pluralism" at this price.

Representative **Scheuer**. Well, I'd like to liberate you from any feeling of tonguetiedness. Really, I'm serious when I say that.

Mr. **Reinhardt**. I find it hard any more to defend our American system. As I always tell my students, there is no way they can convince Canadians and West Germans that this is the best health system in the world. This waste on the one hand that buys no quality, and the human tragedies at the bottom of America's heap cannot be excused by a person with normal Judeo-Christian ethics. I think it is high time that we address this problem, and, incidentally, so do many other decent Americans. My personal advice to you is that you listen less to economists because I believe we are——

Representative **Scheuer**. Wouldn't you include the lawyers, too, just as a general rule?

Mr. **Reinhardt**. Well, they're a special category, but I really believe that economists, with their simplistic conception of health care, have been quite mischievous in the formation of American health policy. Economists define health care as a private consumption good and that is where the mischief starts.

Canadians and Europeans define health care as a social good, like elementary education. They view it as the cement that makes a nation a nation. Most American economists define it as a private consumption good. So I'm quite serious—in fact, I'm going to write a paper about this shortly—"Economists in Health Care: Saviors? or Elephants in a Porcelain Shop?" It is my thesis that we economists have been elephants in a porcelain shop on far too many occasions. We have done grave damage to health policy in America.

But out of respect, I conclude, my point here is——

Representative SCHEUER. No, I don't want it out of respect. Just tell it like it is. Leave the respect aside. What you're telling us is, as Members of Congress, we don't really deserve your respect and I would agree with you. We don't. And neither does the administration. There's enough blame to go around. We don't deserve it and we're not asking for it, so sum up and just tell it like it is without any persiflage.

Mr. REINHARDT. My point is that the American health system is as expensive as it is because the American people—or at least its legislative representatives—want a free-wheeling system that is necessarily so expensive. And if that is what is wanted, then the American people and their legislative representatives ought not to lament the resulting drain on the Nation's pocketbooks. They ought to sit back, pay up, and enjoy it.

To be sure, one major flaw in my prescription is that the very expense of our health system has now made us reluctant, as a people, to be our brethrens' keeper in health care if these brethren are sick, poor, and uninsured. I have written at length about that American tragedy and would, at this time, merely submit to your subcommittee one such paper for possible insertion into the record, which I have given to Mr. Podoff.

Representative SCHEUER. It will be included in the record.

Mr. REINHARDT. But even here we could, if we wished, own up to our professed Judeo-Christian ethic, as I have suggested in that paper, without necessarily destroying the "pluralism" that the American people apparently cherish and which this policy analyst must therefore respect. This would at least solve the tragedy. It would not control costs, of course.

HOW TO CONTROL COSTS

If you want to control costs, I'm afraid you must ultimately begin to amass more market power in the hands of fewer payers who have some say about the resources that are put out there and how much is to be paid for these resources. I deemphasize that somewhat because my colleague from Canada will I think talk much more about it. I think Karen Davis and Dorothy Rice were absolutely right about that earlier this morning. There is no question that the key to a more sensible allocation of health resources is more centralized power on the side of the purchaser. Thank you.

Representative SCHEUER. On the side of the organized health purchasers? There are a few of them and they should have more power and more impact, more clout in the marketplace?

Mr. REINHARDT. The buyers, yes.

Representative SCHEUER. The purchasers. Well, you've certainly been very unequivocal and direct and we appreciate that very much.

[The prepared statement of Mr. Reinhardt, together with the paper referred to, follows:]

PREPARED STATEMENT OF UWE E. REINHARDT

HEALTH-CARE EXPENDITURES IN OTHER COUNTRIES:
What explains their level?

My name is Uwe E. Reinhardt. I am a professor of economics and public affairs at Princeton University's Woodrow Wilson School of Public and International Affairs. The bulk of my research activities during the past twenty years has been devoted to an analysis of health economics and health policy here and abroad.

I would like to thank you, Mr. Chairman, for inviting me to participate in these hearings and to share with you and your colleagues my thoughts on the course of health care in the United States and in other industrialized nations. I can only hope that my joining this panel will do justice to our university's proud motto "Princeton in the Nation's Service."

A. REAL AND FINANCIAL RESOURCE-FLOWS IN HEALTH CARE[1]

Discussions on the allocation of resources to health care often confuse two related and yet quite distinct types of resource transfers in health care, namely:

1. **The real resources transferred to patients, and**
2. **The financial resources transferred to those who provided the real resources.**

The real-resource flow to patients includes the human labor, the chemicals, the medical equipment, the supplies and the brick and mortar directly or indirectly used in support of the treatment of patients. Thus, it includes not only the hours worked by, say, doctors and nurses, but also the work of researchers in the pharmaceutical industry, the wear and tear of buildings used by the manufacturers

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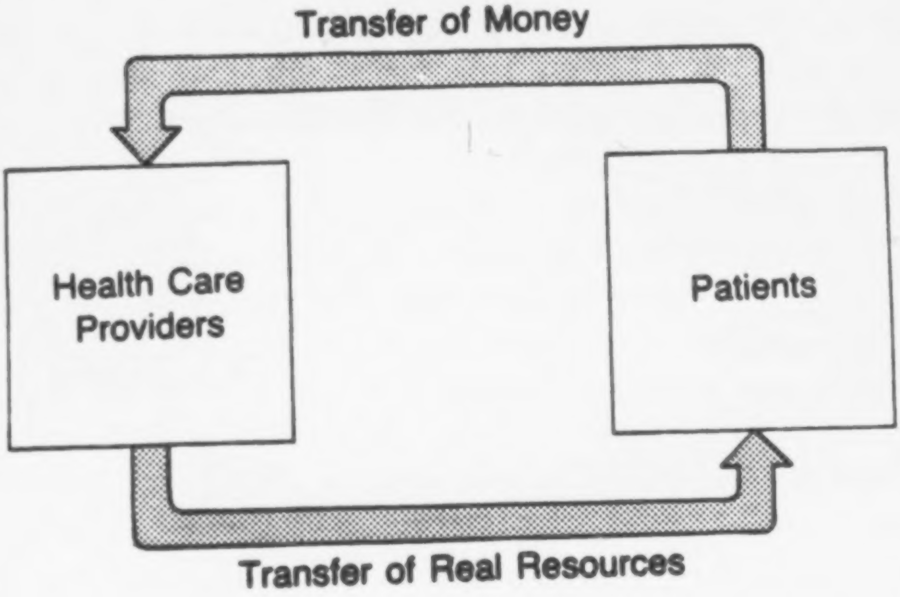
[1] This section draws heavily from Uwe E. Reinhardt, "Resource Allocation in Health Care: The Allocation of Life Styles to Providers," The Milbank Quarterly, vol.65, No.2, 1987; pp.153-76.

FIGURE 1

REAL AND FINANCIAL RESOURCE FLOWS
IN HEALTH CARE


Transfer of Money
Health Care Providers
Patients
Transfer of Real Resources

of diagnostic equipment, and the legions of office workers who process the paper that accompanies the delivery of health services. Collectively, the suppliers of these sundry health-care resources will hereafter be referred to as "health-care providers."

The financial-resource flow represents the reward society bestows upon the providers of real health-care resources. This money flow is a generalized claim on a portion of our Gross National Product. The providers may use this claim to requisition homes, cars, food, fashions, vacations or any of the other goods or services collectively known as the GNP[2].

From the providers' perspective these goods and services are their reward. The rest of society, of course, views these goods and services as the real sacrifice borne to procure health care.

Figure 1 illustrates the relationship between the real and the financial resource flows in health care schematically. The two resource-flows ought not to be confused with one another. The link between them is the money price per unit of real resource transferred to patients--e.g., the price per band-aid, the wage per nurse-hour or the fee per physician-hour, and so on.

[Figure 1]

Put another way, the link between the two resource-flows in Figure 1 reflects the generosity with which society rewards those who transfer real health-care resources to patients. It follows that a nation's expenditure on health care per se is not a very reliable measure of the real health-care resources that nation allocates to patients.

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[2] Should American health-care providers prefer foreign-produced goods and services, they then transfer their money claims on US GNP or assets to the foreign exporters who can use the claims at will.

To illustrate this point, consider the data shown in Table 1, taken from the 1986 Annual Report of the Colorado Health Data Commission[3].

These data suggest that the real-resource flow from Colorado hospitals to patients is unlikely to have increased proportionately with the flow of financial resources to Colorado hospitals. On the contrary, the drastic decline during 1983-85 in the number of admissions and of patient days delivered to patients suggests that the flow of real resources to patients may well have decreased while the financial flow to providers increased during 1983-85[4]. And what has been concluded here for the Colorado hospital sector may well be true for many other parts of the American health sector during this period.

[Table 1]

In 1986, American society collectively transferred to the direct and indirect providers of health-care collectively a slice equal to 11.2 percent of the nation's GNP as a reward for whatever real resources these providers sacrificed in direct or indirect support of the treatment of American patients. The comparable figure for 1980 was 9.4 percent. It is estimated to grow to at least 15 percent by the year 2000[5].

Table 2, taken directly from a published paper by co-panelist Dr. George Schieber[6], shows that other nations in the industrialized world tend to transfer smaller proportions of their GNP to the providers of real health-care resources.

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[3] Cited in Uwe E. Reinhardt, op.cit., Table 5, p.164.

[4] Theoretically, we cannot rule out that, because of technical progress, the total real-resource flow from Colorado hospitals to patients increased even in the face of the rapid decline in admissions and patient days, although that seems unlikely over so short a period of time.

[5] Health Care Financing Review, vol.8, number 4, Summer 1987; p.1.

[6] George J. Schieber and Jean-Pierre Poullier, "Recent Trends in International health Care Spending," Health Affairs, Fall, 1987; Exhibit 2, page 108.

TABLE 1

Selected Hospital Characteristics 1983/85, North Region, Colorado

Variable	1983	1985	Percentage change 1983–1985
Number of admissions	49,732	44,834	− 10%
Average length of stay (days)	5.2	4.6	− 12
Number of patient days	256,733	208,359	− 19
Inpatient charges ($ millions)	$130.4	$143.4	+ 10
Inpatient charges per day	$510	$680	+ 33
Inpatient charges per discharge	$2,617	$3,199	+ 22
Net profit ($ thousands)*	$6,321	$12,345	+ 95
Net profit margin*,**	4.6%	7.4%	+ 61

Source: Colorado Health Data Commission 1986, 31–34.

* Includes profits from outpatient services.

** Net profits as percentage of total net revenues (total inpatient and outpatient revenue minus total deductions from revenue).

Cited from Uwe E. Reinhardt, *op.cit.*, Table 5.

Neighboring Canada, for example, rewarded its providers of health care collectively with less than 9 percent of that country's GNP, Japan with only 6.6 percent and the United Kingdom with only 5.7 percent.

[Table 2]

If per-capita health spending in the United States is 11.2 percent of per-capita GNP while the comparable figure for, say, Canada only 8.6 percent of per-capita GNP, it may be natural to assume that the real-resource flow to American patients was commensurately higher than that to Canadian patients--that American health care was that much better. Once again, however, it might be so, but it need not so. As is shown in tables 3 and 4 below, there are significant differences in the generosity of the financial rewards different countries bestow on their health-care providers.

Table 3 shows the fees paid American and Canadian physicians for a number of standard medical interventions in 1984[7]. It is seen that much more is paid per physician hour in the United States than is in Canada. Table 4 indicates that there are noticeable differences in the relative income positions of physicians across the industrialized world. Clearly, the link between real-resource transfers to patients and the monetary reward therefor varies across nations.

[Tables 3 and 4]

The large difference in the allocation of GNP to health care providers in, say, Canada and the United States thus leaves one with the following intriguing question:

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[7] Coding--that is, the precise range of services included in a procedure--does present a problem in such comparisons, for there may be systematic differences in the definition of the procedure. It can be doubted, however, that differences in coding can explain anything more than a small fraction of the fee differentials shown in Table 3.

TABLE 2

TOTAL HEALTH EXPENDITURES AS A PERCENT OF GDP, 1960-85

	1960	1965	1970	1975	1980	1981	1982	1983	1984	1985
Australia	5.1	5.2	5.6	7.4	7.3	7.4	7.6	7.3	7.7	7.6
Austria	4.4	4.7	5.3	7.1	7.9	8.1	8.0	7.9	7.9	7.9
Belgium	3.4	3.9	4.0	5.8	6.6	7.0	7.1	7.2	7.2	7.3
Canada	5.5	6.1	7.2	7.3	7.5	7.6	8.4	8.7	8.6	8.6
Denmark	3.6	4.8	6.1	6.5	6.8	6.8	6.8	6.6	6.3	6.2
Finland	4.2	4.9	5.6	5.8	6.3	6.4	6.6	6.6	6.8	7.3
France	4.3	5.3	6.1	7.6	8.5	8.9	9.3	9.3	9.0	9.4
Germany	4.7	5.1	5.5	7.8	7.9	8.2	8.1	8.0	8.1	8.1
Greece	2.9	3.1	4.0	4.0	4.2	4.4	4.4	4.2	4.0	4.2
Iceland	5.9	6.0	8.7	11.1	6.9	7.3	7.7	8.6	7.9	8.4
Ireland	4.0	4.4	5.6	7.7	8.5	8.2	8.0	8.1	8.1	8.0
Italy	3.9	4.6	5.5	6.7	6.8	7.0	7.2	7.3	7.2	7.4
Japan	3.0	4.5	4.6	5.6	6.6	6.7	6.8	6.9	6.7	6.6
Netherlands	3.9	4.4	6.0	7.7	8.3	8.5	8.7	8.7	8.5	8.3
New Zealand	4.4	4.5	5.1	6.4	7.2	6.9	6.7	6.3	5.8	5.6
Norway	3.3	3.9	5.0	6.7	6.6	6.6	6.8	6.8	6.6	6.6
Portugal	—	—	—	6.4	5.9	6.1	5.7	5.5	5.5	5.7
Spain	2.3	2.7	4.1	5.1	5.9	6.2	6.4	6.3	6.0	6.0
Sweden	4.7	5.6	7.2	8.0	9.5	9.6	9.7	9.6	9.3	9.3
Switzerland	3.3	3.8	5.2	7.1	7.2	7.0	7.4	7.8	7.9	7.9
United Kingdom	3.9	4.1	4.5	5.5	5.7	6.0	5.9	6.1	6.1	5.7
United States	5.2	6.0	7.4	8.4	9.2	9.5	10.4	10.7	10.5	10.8
Mean	4.1	4.6	5.6	6.9	7.2	7.3	7.4	7.5	7.4	7.4

Source: *Measuring Health Care 1960–1983* (Paris: OECD, 1985); and consistent Secretariat revisions and estimates for 1984 and 1985.

Cited from Schieber and Poullier, op.cit.

TABLE 3

Comparison of 1984 Medical Fees, United States and Canada

	Prevailing charges under Medicare, California ($)	Median fees, United States ($)	Fees in Ontario ($ Canadian)
Electrocardiogram (professional charges only)	40	35	7
Insertion of pacemaker	1,815	1,200	334
Appendectomy	734	600	259
Extraction of lens	1,341	—	368
Hysterectomy	1,393	901	503
Coronary artery bypass	5,200	—	1,300

SOURCE: Uwe E. Reinhardt, op.cit., Table 1.

TABLE 4

Net Pretax Practice Income of General Practitioners as a Multiple of Average Employee Compensation and Gross Domestic Product per Capita, ca. 1978

Country	Ratio of physican net income to: average employee compensation	gross domestic product per capita
West Germany (G.P.s)	4.7	7.4
United States (all M.D.s)	4.5*	6.5
(G.P.s)	3.9	5.6
Japan (all M.D.s)	3.8**	6.2
France (G.P.s)	2.8	4.5
Great Britain (G.P.s)	2.1	4.3
Italy (G.P.s)	1.8	3.8

Source: Data for Japan from Nishimura 1981, table A-4. Data for all other countries from BASYS (1986), table D.10.
Reprinted by permission from Reinhardt 1985.

* Relatively few American physicians are general practitioners and these earn relatively low incomes. For all American physicians the ratio was 4.5 in 1975, and 4.6 in 1983.

** For Japan the numbers represent the 1975 income of all physicians.

Cited from Uwe E. Reinhardt, op.cit., Table 6.

> **In return for the much higher allocation of financial resources from American society to American health-care providers, precisely what extra real resources to American patients receive in return, and what difference do these extras (if any) make to the health status of Americans, other things being equal?**

A similar question can be asked in connection with any other country whose health-care expenditures are below ours. Although this question does not have a conclusive answer at this time, it is eminently researchable and probably should be researched by a government professing an interest in the control of health-care expenditures.

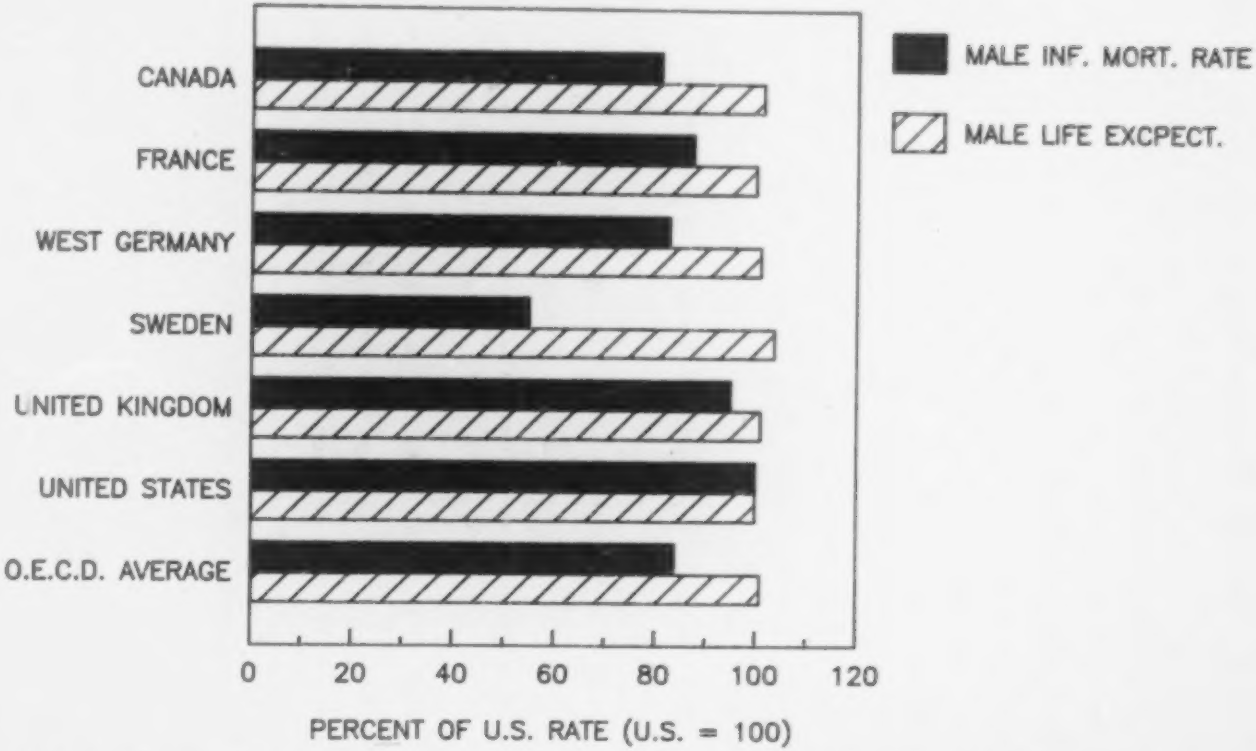
Certainly it is true that the observed differentials in health-expenditures do not reflect themselves in commensurate differences in the crude health-status indicators sometimes used for that purpose (see Figure 2 below). Unfortunately, these crude indicators tell us little about the relative efficacy of different health systems, because these health-status indicators are shaped by many socio-economic and demographic factors completely outside of the control of the health system proper. It would therefore be neither meaningful nor fair to read into such crude numbers shortcomings of the American health system per se.

[Figure 2]

At this point I merely wish to emphasize that patients in countries that spend a relatively high proportion of their GNP on health care may not be commensurately better off than patients in countries that allocate a lower fraction of their GNP for that purpose. Americans love to boast that their's is the best health system in the world, and they often support that claim with appeal to the relatively large percentage of GNP this nation devotes to health care. Such boasts, too, are neither meaningful nor fair. They assume much too tight a linkage between the two resource flows in Figure 1.

FIGURE 2

CRUDE HEALTH-STATUS INDICATORS, ca. 1980-84 SELECTED COUNTRIES IN THE O.E.C.D.



SOURCE: OECD, Financing and Delivering Health Care, Social Policy Studies No.4, Paris, 1987; tables 8 and 9.

B. DETERMINING THE MONEY PRICES PER UNIT OF REAL HEALTH-CARE RESOURCE

In most ordinary markets, the money transfers received by providers per unit of real resource transferred to consumers is arrived at through bargaining by well-informed, rational individuals. This bargaining process typically breaks down in health care because over two thirds of all health-care expenditures are covered by private or public insurance, which robs the individual patient of the incentive to bargain effectively.

But leaving aside this so-called "moral hazard" implicit in the collective financing of consumer goods, even uninsured patients would probably be neither sufficiently well informed nor, in many instances, sufficiently rational to bargain effectively with the providers of health care. As a rule of thumb, between 70 and 80 percent of all health expenditures in any given year are accounted for by only 10 percent of the population. One must assume that the bulk of these 10 percent are seriously ill--often in pain, beset by acute anxiety or even dying--and in no condition to confront providers with anything near adequate countervailing power. Nor can we assume that grief stricken relatives will be able to perform better on this score.

Most other industrialized nations have recognized these shortcomings of a free market in health care and have provided instead a formal process by which associations of providers bargain with associations of third-party payers (or with the government itself) over the appropriate money transfer per unit of real health-care resource. In Canada, for example, the provincial governments that operate the nation's health insurance system negotiate with hospitals global budgets and with organized medicine fee schedules that are binding upon the individual physician. The semi-autonomous health insurance pools (the so-called Sickness Funds) in West Germany form state-wide associations that negotiate prospective budgets with individual hospitals and binding fee schedules with associations of physicians.

Figure 3 illustrates the trade-off described above. The columns in that figure depict three desirable goals one would like to have a nation's health system pursue: (1) equity in the distribution of health services, (2) economic and clinical freedom for those who treat patients, and (3) budgetary and cost control, by which is meant that there ought to be some idea at the beginning of fiscal periods how much a household, government or business must set aside for health care and, moreover, that the benefits from health services should always be able to justify their costs. A moment's thought makes it clear that a health system can attain only two of these three goals in their purity. Practically, there always has to be a trade-off among them, because they conflict with one another.

Canada and the European nations have set a very high priority on equity in the distribution of health care and on budgetary and cost control. They have done so by reducing considerably the individual doctor's and hospital's economic freed, although generally not their clinical freedom.

[Figure 3]

Americans have never been able to agree on the priority that ought to be assigned to the three goals in the table. They profess allegiance to an equitable distribution of health care, but actually have left between 35 and 40 million Americans without health insurance many of whom, when they fall ill, have great difficulty in obtaineing needed health care. In the meantime, we have had a decade old, ill-cast debate over "market vs. regulation" in health care, which has left us with neither an effective regulatory apparatus in place nor, so far, a

FIGURE 3

Competing Objectives In Health Care:
Basic Prototypical Systems That Span The Set Of Actual Systems

—DESIDERATA—

Egalitarian Distribution	Freedom From Government Interference in Pricing and in the Practice of Medicine	Budgetary and Cost Control	Prototypical System
YES	YES	NO	The Health-Care Provider's Dream World
YES	NO	YES	A National Health Insurance System with Fee Schedules and Other Utilization Review. (e.g., Canada, West Germany)
NO	YES	YES	A Price-Competitive Market System

SOURCE: Uwe E. Reinhardt, "Hard Choices in Health Care: a Matter of Ethics," in Center for National Policy, HEALTH CARE: How to Improve It and Pay for It, Washingto, D.C., April, 1985; pp.19-31.

properly functioning market system in which price plays its usual role. The result, I am afraid, is that we have failed to attain either equity or budgetary and cost control. Furthermore, in their tenacious fight to protect their economic freedom, our physicians have given up far more clinical freedom than their colleagues abroad. Canadian or West German physicians, for example, are not subjected to the close day-to-day monitoring of their clinical decisions as are their American colleagues.

In recent years, there has been a gradual shift in market power from American providers of health care toward those who pay for care; but that shift has been gingerly and quite limited so far. Anti-trust strictures have prevented private insurers from gaining market power through coalitions. Although the federal government actually does enjoy an almost single-buyer position for many procedures received primarily by elderly patients, the government has been reluctant so far from exercising that market muscle, most probably over fear of alienating politically powerful interest groups.

One can debate the merits and demerits of this failure to concentrate added market power in the hands of the buyers of health care. One can certainly question whether it is _fair_ for governments or coalitions of health-insurers to amass concentrated market power in their hands. The issue involves the distribution of economic privilege in society and, as such, is entirely subjective and political. But the still evident lack of market power on the demand-side of the American health-care market must be recognized as one of many reasons why health-care expenditures in the United States have outpaced those in the rest of the industrialized world. It is a price American society has so far been willing to pay for "pluralism" in health care and for the preservation of economic freedom among the providers of health care.

But even if added market power in American health care were transferred from providers to payers in the future--as may very well happen during the next few decades--the overall cost savings achieved thereby would inevitably be modest relative to total national health care expenditures. The gross billings of American physicians, for example, represent only about 20 percent of total health-care expenditures. Even if more vigorous bargaining with physicians could cut fees by as much as 10-percent across the board, national health expenditures would be reduced by only 2 percent.

For many other types of inputs--for example, for nurses or other health professionals--there is almost no room for further bargains, because these types of manpower must be bid away from other labor markets in an already fiercely competitive bidding.

Further substantial cuts on national health spending can therefore come only from commensurate reductions in the flow of real health-care resources to the health sectors. That transfer itself can be broken down into two distinct components

1. The real-health care resources actually being applied to patients (the analogue of "direct labor" and "direct materials" in standard cost-accounting lingo), and
2. The real resources burned up in direct support of patient care ("overhead" in the lingo of conventional cost accounting).

Depending on the organization of the health sector, these two categories of real-resource expenditures can vary across nations. If the overhead cost of a health system is relatively large, it is certainly not obvious whether any one other than the suppliers of the overhead resources benefit therefrom. Let us examine these two resource-costs in turn.

C. THE REAL-RESOURCE FLOW TO PATIENTS

Countries differ substantially in the manner by which they control the application of real resources to the treatment of particular medical conditions.

Some countries--for example, the United Kingdom, Sweden and Finland--use socialized health-care delivery systems to fix the capacity of the system within a formal framework of health-sector planning which itself is embedded, of course, in a democratic system of governance. The allocation of this fixed capacity to individual patients is then left to the judgement of health professionals, notably physicians. This model is the analogue of America's system of public elementary, secondary and higher education.

In other countries the health-care delivery system may be entirely private, but even so may be constrained in its development through statutory limitations or health-sector planning. In those countries--for example, Canada or West Germany--much of this planning takes the form of negotiations among private and public parties over the appropriate capacity of the health system. Within those overall limits, however, patient and physician still enjoy a considerable measure of freedom to select preferred treatment modalities.

At the other extreme, we in the United States have traditionally told doctors and the facilities supporting physicians to use their own individual judgments on what real-resources ought to be applied to the treatment of their individual patients and then simply to send a bill to either the patient or, more typically, to a collectivist payment pool, be it a private health insurance company or a public health program such as Medicare and Medicaid. There has never been any serious attempt to limit the overall capacity of the system through collective choice.

In other words, the allocation of real-resources to patients in this country has always been the product of what thousands of individual physicians and millions of their patients deemed appropriate at the moment of treatment, without much concern for the implications on overall resource allocation to and within health care. With few exceptions, the resources requisitioned in this process have always flowed freely to the provider-patient encounter, and they were always promptly rewarded with financial resources.

The major exception, of course, has been the city or county hospital which functions essentially as does the entire British health system: it has a fixed budget and, with it, a fixed physical capacity, and it must do God's work within those limits.

In some respects, a tightly budgeted Health Maintenance Organization funded with prepaid capitation also can be seen as an attempt to mimic the British style of rationing, although its budgets are set in the private sector and its physical capacity may not be rigidly fixed, for an HMO can procure needed services from outside its own organization if that is deemed desirable.

It is well known, and readily conceded by the medical profession, that the treatment of patients remains as much an art as a science. Consequently, it is not at all surprising that the use of real health-care resources even for given medical conditions varies remarkably among physicians and, thus, among seemingly similar populations. This insight has been most forcefully brought into vision by Dr. John Wennberg's path breaking research of variations in medical-practice patterns across small areas within the United States. Figure 4 below illustrates that type of work. Shown in that display are differences in the per-capita use of real resources and in per-capita health expenditures in two Iowa cities: Des Moines and Iowa City. These data, it must be added, have been adjusted for differences in the age and sex composition of the underlying populations, and also for health services delivered by the two cities to residents outside their boundaries.

[Figure 4]

The insight one gains from research of this sort is that a nation, such as ours, which abhors formal health-sector planning, which certainly abhors the limiting of the health-sector's physical capacity through public policy, and in which thousands of entrepreneurs are actively encouraged to look upon health care as an activity to which real resources can be supplied in return for a good monetary rewards, that such a nation must be content to countenance

a. **wide, inexplicable variations in the use of real health-care resources for seemingly similar populations, and**

b. **a relatively higher average overall use of real health-care resources per capita than may be countenanced in other nations.**

My point here is not to naysay the freewheeling entrepreneurial approach to resource allocation in health care apparently preferred by Americans, nor to proffer any particular system used elsewhere. Detached policy analysts are not ever to make those value judgments. My point is simply to remind us all that our freewheeling style carries with it the price-tag of relatively high real resource costs and commensurately high financial resource costs. A people that insists upon our laisser-faire approach in health care should be mature enough to accept these higher resource costs without rancor.

It is well-known that aged persons tend to require more resource-intensive medical treatments than do all but the very youngest persons. Could this nation's relatively heavy real-resource use in health care possibly be explained by such demographic differences? It does not appear so. Although neighboring Canada does have relatively fewer persons aged 65 or older, most of the European nations who

FIGURE 4

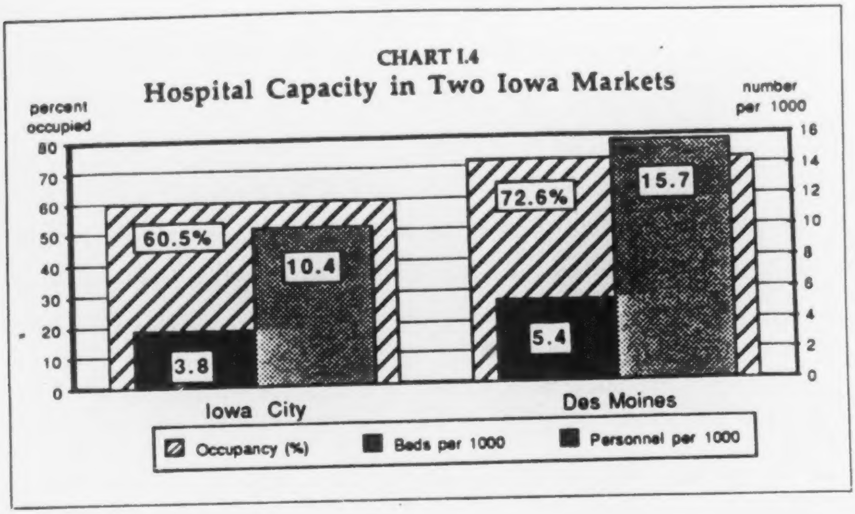


CHART I.4
Hospital Capacity in Two Iowa Markets

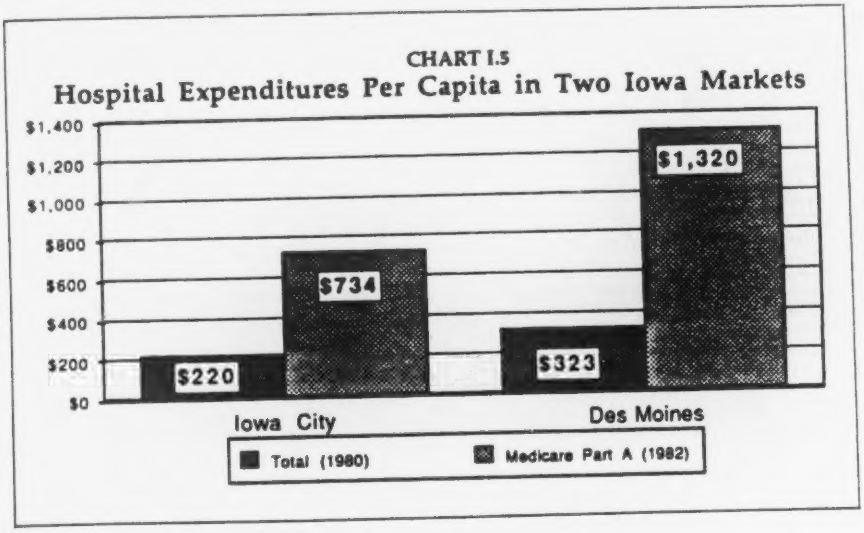


CHART I.5
Hospital Expenditures Per Capita in Two Iowa Markets

SOURCE: Philip Caper, M.D., "The Physician's Role," in Employee Benefit Research Institute, The Changing Health Care Market, (edited by Frank McArdle); Washington, D.C. 1987; pp.40-1.

spend less on health care than we do tend to have relatively more aged populations (see Table 5). Only in the 21st century will the United States have reached the top-heavy age-distribution of its population already characteristic of the European nations today.

[Table 5]

D. REAL-RESOURCE ALLOCATION TO OVERHEAD

The "bureaucracy" accompanying human activity, such as health care, can be measured in two distinct ways:

1. **by the number of public servants directly or indirectly supporting the activity, or**
2. **by the number of persons sitting in some private or public office to process the paper accompanying the activity.**

Americans are in the habit of measuring "bureaucracy" strictly by the first of these standard, perhaps because they are taught from childhood on to love to hate their government. From that vantage point, Americans tend to decry the health systems in other nations as unduly "bureaucratic."

Even on that standard, however, it is not at all clear whether, say, the Canadian or West German health systems really do employ more civil servants per capita than does the United States, for neither country operates any health system as administratively complex as either the Medicare or Medicaid programs. I am not aware that anyone has ever examined this question formally. If I had to place my bet at this time, I would wager that ours is the more "bureaucratic" system even under the narrow, first standard of "bureaucratization."

Be that as it may, from the viewpoint of cost accounting the relevant criterion is not who writes an office worker's paycheck, but whether or not that

TABLE 5

POPULATION AGED 65 AND OVER – 1980-2050[a]

as % of total population

	1980	*1990*	*2000*	*2010*	*2020*	*2030*	*2040*	*2050*
Australia	9.6	11.1	11.7	12.6	15.4	18.2	19.7	19.4
Austria	15.5	14.6	14.9	17.5	19.4	22.8	23.9	21.7
Belgium	14.4	14.2	14.7	15.9	17.7	20.8	21.9	20.8
Canada	9.5	11.4	12.8	14.6	18.6	22.4	22.5	21.3
Denmark	14.4	15.3	14.9	16.7	20.1	22.6	24.7	23.2
Finland	12.0	13.1	14.4	16.8	21.7	23.8	23.1	22.7
France	14.0	13.8	15.3	16.3	19.5	21.8	22.7	22.3
Germany	15.5	15.5	17.1	20.4	21.7	25.8	27.6	24.5
Greece	13.1	12.3	15.0	16.8	17.8	19.5	21.0	21.1
Iceland	9.9	10.3	10.8	11.1	14.3	18.1	20.1	21.1
Ireland	10.7	11.3	11.1	11.1	12.6	14.7	16.9	18.9
Italy	13.5	13.8	15.3	17.3	19.4	21.9	24.2	22.6
Japan	9.1	11.4	15.2	18.6	20.9	20.0	22.7	22.3
Luxembourg	13.5	14.6	16.7	18.1	20.2	22.4	22.0	20.3
Netherlands	11.5	12.7	13.5	15.1	18.9	23.0	24.8	22.6
New Zealand	9.7	10.8	11.1	12.0	15.3	19.4	21.9	21.3
Norway	14.8	16.2	15.2	15.1	18.2	20.7	22.8	21.9
Portugal	10.2	11.8	13.5	14.1	15.6	18.2	20.4	20.6
Spain	10.9	12.7	14.4	15.5	17.0	19.6	22.7	22.9
Sweden	16.3	17.7	16.6	17.5	20.8	21.7	22.5	21.4
Switzerland	13.8	14.8	16.7	20.5	24.4	27.3	28.3	26.3
Turkey	4.7	4.0	5.0	5.5	7.0	8.9	10.2	11.5
United Kingdom	14.9	15.1	14.5	14.6	16.3	19.2	20.4	18.7
United States	11.3	12.2	12.2	12.8	16.2	19.5	19.8	19.3
OECD average[b]	**12.2**	**13.0**	**13.9**	**15.3**	**17.9**	**20.5**	**21.9**	**21.2**

(a) 1980 actual; 1990 to 2050 projections.
(b) Unweighted.
Source: OECD.

worker functions as direct or indirect labor. From that perspective the second standard of "bureaucracy" is surely the more relevant one.

If one takes the second definition as one's standard of "bureaucracy"--that is, if one measures it by the ratio of real resources directly applied to patients to the real resources burned up in the indirect support of the system--then I feel comfortable advancing the following hypothesis:

> **FOR BETTER OR FOR WORSE, THE AMERICAN HEALTH SYSTEM IS THE MOST BUREAUCRATIC HEALTH SYSTEM ANYWHERE IN THE INDUSTRIALIZED WESTERN DEMOCRACIES.**

Such a hypothesis may astound Americans who are accustomed to thinking of themselves, and of their institutions, as non-bureaucratic. But if one only thinks of the awesome paper trail left behind by each and every single health-care encounter in this country (not even to speak of the paper deluge accompanying the massive marketing efforts among competing insurers and providers), and if one compared that paper flow with the comparable flow anywhere else in the industrialized West, one would probably find support for my hypothesis.

American physicians report that at least one full-time employee in their office practices is needed just to handle the paper flow around insurance coverage. Most American corporations employ large employee-benefit staffs for the same purpose. The third leg of the process is employed by the private and public third-party payers themselves, and the fourth by private households who spend millions of hours exercising choice among health plans and then claiming reimbursements--and fighting over such claims--with third-party payers.

A precise benefit-cost analysis of this overhead burden has not, to my knowledge, been performed so far. In their"Cost without Benefit: Adminsitrative

Waste in U.S. Health Care," Himmelstein and Woolhandler[8] estimate that this waste may be as large as 8 to 10 percent of total national health expenditures (which would be between $ 40 to $ 50 billion dollars today). Certainly it is remarkable, and warrants further inquiry, that the item "Program Adminsitration and the Net Cost of Private Health Insurance" in the United States rose by 156 percent from $ 9.2 billion in 1980 to $ 23.6 billion in 1985, when overall national health expenditures rose by only 70 percent from $ 248 billion to $ 422 billion[9].

It is an open question just what enhanced economic efficiency or enhanced quality of care, if any, was bought with these escalating outlays on administrative overhead. In any event, it is a researchable issue that warrants close monitoring in the future.

E. SUMMARY AND CONCLUSIONS

The gist of my preceding remarks has been that the American health system is the most expensive such system in the world because

a. it appears to use more real resources per capita in the treatment of patients than do other nations, certainly in the hospital sector, but also in numerous other sectors or geographic locations,

b. its highly bureaucratic nature is likely to use up far greater real resources than other nations find it necessary to use in support of health care, and

c. it pays at least some providers of real health-care resources relatively more generous monetary rewards than do other nations that drive harder bargains with such providers.

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[8] David U. Himmelstein and Steffie Woolhandler, "Cost without Benefit: Administrative Waste in U.S. Health Care," The New England Journal of Medicine, Vol.314, No.7, February 13, 1986; pp.441-6.

[9] Health Care Financing Review, Vol.8, No.4, Summer 1987; Table 13, p.25.

These characteristics of our system are the by-product of an apparent preference for a "pluralistic", relatively free-wheeling health care system that offer Americans--or, in some cases, forces on Americans--numerous instances of choice among insurers and health-care providers, and much administrative overhead involving the processing of claims for payment or reimbursement in the wake of illness. Neither patients nor providers elsewhere in the world are beset by quite the paper war Americans visit on their providers and patients, not even to speak of the business community and the public sector. For example, if one describes to Canadians or Europeans the adminsitrative process accompanying payment under the Medicare program they lapse, first, into disbelief and, next, into laughter.

If one were to write down America's quintessential health-care bill per $100 spent on the direct health-care resources made available to patients, one would probably not be far off the mark with the following:

FOR HEALTH SERVICES RENDERED	$ 100.00
Surcharge for "pluralism"	$ 20.00
TOTAL HEALTH-CARE BILL	$ 120.00

We may quibble about the precise magnitude of the surcharge for "pluralism," about what "pluralism" actually represents, and what "pluralism" is really worth in terms of real and imagined benefits. These are matters of taste deeply rooted in the nation's culture.

My point here is merely that the American health system is as expensive as it is because the American people--or at least its legislative representatives--want a free-wheeling system that is necessarily so expensive. And if that is what is wanted, then the American people and their legislative representatives ought not to lament the resulting drain on their pocket books; they ought to sit back and enjoy it.

To be sure, one major flaw in my prescription is that the very expense of our health system has now made us reluctant, as a people, to be our brethrens' keeper in health care if these brethren are sick, poor and uninsured. I have written at length about that American tragedy and would, at this time, merely submit to your committee one such paper for possible insertion into the record.

But even here we could, if we wished, own up to our professed Judeo-Christian ethic, as I have suggested in that paper, without necessarily destroying the "pluralism" that the American people apparently cherish and which this policy analyst must therefore respect.

Are Mandated Benefits the Answer?

By Uwe E. Reinhardt, Ph.D.

Mandated employer-paid health insurance poses serious problems not present in some alternative approaches.

Most readers of this essay are likely to be rich. So is its author, and so are the great majority of managers, lobbyists and legislators who jointly direct the flow of this nation's health-care resources. Most of us are likely to live in households with annual incomes in excess of $50,000 to $60,000 per year. As Table 1 shows, that would place us somewhere in or near the top 20 percent of families in the nation's income distribution. Persons in that felicitous position can fairly be labelled "rich."

It is illuminating for rich people occasionally to contemplate the nation's income distribution, not only to luxuriate in their own good fortune but also to imagine what life must be like at the nether fringes of that distribution—say, among the 20 percent of American families with annual incomes below $14,000 or among the 20 percent of single individuals with annual incomes below $5,200.

Millions of Americans in these dire straits do not enjoy the peace of mind simply taken for granted by their counterparts elsewhere in the industrialized world: comprehensive health insurance that protects their meager family budgets from the financial consequences of illness. Graph 2 conveys the socio-economic dimensions of this phenomenon.

It is seen that, in 1985, an estimated 35 million Americans were without health insurance of any kind. Close to half of these were full-time workers. Close to one-third were children under the age of 18. As is well known—or should be well known—roughly one-third of all Americans living below the official poverty line are children, and more than 22 percent of all American children now live below that official poverty line. In 1985, that line was an annual income of $7,230 for a nonelderly family of two and $10,900 for a nonelderly family of four.

Granted, about one-third of the uninsured could afford to purchase health insurance out of their own resources, if affordable individual policies were actually available to them in the market, say, at a price equivalent to group health insurance. In 1987, the annual premium for such a policy would have been between $2,100 and $4,500 for a family of four, and between $780 and $1,500 for a single individual, depending on location. In addition, the insured would shoulder deductibles and coinsurance exposing them to a maximum annual out-of-pocket expense of $3,000.

Unfortunately, some major commercial insurers do not even offer individual health-insurance policies any more. If they do, they must price them at a multiple of the premiums for group insurance because there are added marketing and administrative costs and there is the ever-present problem of adverse-risk selection by individuals.

Be that as it may, about two-thirds of

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the uninsured live in households whose already-tight budgets would be severely taxed even by the lower group premiums. In connection with these low-income Americans, their better-off compatriots therefore cannot escape this fundamental question:

> *With respect to health care, wouldst thou be thy poor brothers' and sisters' keeper, which is to say, wouldst thou be willing to provide, through direct or hidden taxes, health-insurance coverage for these ones?*

Here is how our Canadian neighbors have answered this very question: The government of Canada believes that a civilized nation should not make the sick bear the financial burden of health care. Everyone benefits from the security and peace of mind that comes with having prepaid insurance. The misfortune of illness, which at some time touches each of us, is burden enough; the cost of care should be borne by society as a whole.[1]

The misfortune of illness is burden enough. The cost of care should be borne by society as a whole.

The strength of Canada's consensus on this point can be inferred from the fact that the statement was issued in 1983—that is, by a Conservative government. And the statement is not just facile lip service to a mellow ethical precept. To implement the sentiment, Canada has socialized completely the *financing* of health care, although, it must be added, not its production.[2]

One must wonder whether such a statement would find endorsement in our nation's legislative chambers, or on proverbial Main Street. To be sure, in survey after survey the majority of respondents profess allegiance to the principle that "all Americans should have access to the same quality of health care regardless of ability to pay for that care."[3] At the same time, however, there *are* the

Table 1

Distribution of Money Income, 1986

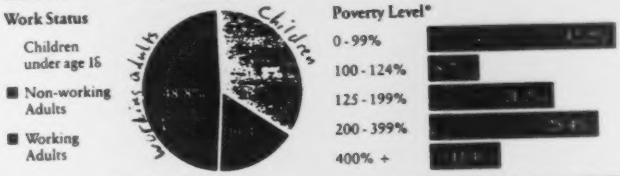
Quintile	Households with Two or More Individuals		Unrelated Individuals	
	Percent of Total Income	Upper Income Threshold	Percent of Total Income	Upper Income Threshold
Lowest Quintile	4.6%	$13,886	3.5%	$ 5,128
Second Quintile	10.8	24,020	8.8	9,260
Third Quintile	16.8	35,015	15.2	15,334
Fourth Quintile	24.0	50,370	24.5	25,000
Upper Quintile	43.7	—	48.1	—
Top 5 Percent	17.0	82,273	19.1	40,600

Source: *U.S. Department of Commerce, Bureau of the Census,* Money Income and Poverty Status of Families and Persons in the United States, *Current Population Series P-60, #157, July 1987; Table 4.*

Graph 2

Non-Elderly U.S. Population Without Health Insurance, 1985

Uninsured Profile: 34.8 Million People



* *Percentage distribution by family income, defined as percentage of the poverty line.*
Source: *Deborah Chollet, "A Profile of the Non-Elderly Population Without Health Insurance,"* in Government Mandating of Employee Benefits, *Washington, D.C.: Employee Benefit Research Institute, 1987; Chart III.1 and III.2.*

millions of uninsured, and no one seems to blanch at the advertisement currently carried in the nation's major magazines and sponsored by America's Life and Health Insurance Companies according to which:

> *Insurers have to group people with similar risks when they calculate premiums. If they didn't, people with low risks [*healthy*] would end up subsidizing people with high risks [*sick*]. And that wouldn't be* fair. *(Emphasis and words in brackets added.)*

Many Americans are deeply troubled by the hardship endured by the nation's poor uninsured.

It is one thing to argue that nonactuarial premiums are technically not feasible in a price-competitive health-insurance market, for that is perfectly true. What strikes one about the advertisement is its use of the word "fair." How is one to interpret the implied distributive ethic? Correctly viewed, one's yearning for "actuarially fair" health-insurance premiums is an implicit profession that one does *not* wish to be one's sick and poor compatriots' keeper, at least not through the medium of private health insurance. The question then remains, through what other medium would one be prepared to be one's sick and poor brother's keeper, if at all?

These musings are offered here on the thought that the much-lamented chaos in this nation's health policy really reflects a deep-seated mental chaos on the matter of distributive justice. Before even bothering to contemplate the relative merits of "national health insurance," "mandated benefits" or still other proposals, one should therefore search one's soul for answers to the following fundamental questions:

1. Should health care—including preventive care such as glaucoma tests and throat cultures for sick children—be construed as a *private consumption good* to be financed by its "consumer," or should it be viewed as a *social good*, akin to elementary education, and be financed collectively?

2. Should every American have a *right* to acutely needed health services—including the mere mitigation of pain, if that were technically feasible?

3. Should someone in State X have any say on what is or is not done for sick fellow Americans in other states? In other words, is public health policy in this respect a federal or a state and local matter? If Americans have reached a consensus on these questions, that would certainly not be obvious to a Martian visitor. But many American citizens and legislators *are* deeply troubled by the fiscal and, occasionally, physical hardship endured by the nation's poor uninsured. What options are there for alleviating their plight?

One option, clearly, would be to copy what Canada has done: to introduce a collectively financed national health-insurance system. That option was vigorously debated in this country throughout the 1970s. It was found wanting, at least by those who make health policy in this country.

The posture is understandable. The providers of care, who hold great sway over this nation's health policy, would stand to lose income under national health insurance.[4] Second, unlike the much simpler parliamentary system in Canada, our more complex legislative process might not be able to devise an efficient national health-insurance program, even if that were deemed desirable in principle. Finally, Americans have relatively little faith in their government's ability to address social problems.

These apparently widely shared sentiments point to an increasingly popular solution to the nation's social problems: their delegation to the good offices of the private sector. That approach finds expression in S.1265, proposed by Senator Kennedy, which would mandate employers to provide employees and their families with comprehensive, basic health insurance, largely at the employer's expense. Ironically, Senator Kennedy's proposal is strikingly similar to the National Health Insurance Partnership proposed by President Richard Nixon in his *Health*

Message to Congress on February 18, 1971.[5] Although extraordinarily progressive by today's standards, that proposal was deemed as much too timid against the more ambitious rival national health-insurance proposals then being contemplated.

One can assess the merits of mandated health benefits in terms of a T-account, with a debit and a credit side.

The first credit entry would be the fact that the approach builds upon the American tradition to link health insurance to the workplace. That approach has served millions of Americans well, albeit at a high cost to employers and employees jointly.[6]

A second credit is due for the sheer power of the approach. With one stroke of the legislative pen, the mandate would bring coverage to well over half of the currently uninsured. The remainder could presumably be absorbed into an expanded federal-state Medicaid program or be left to other initiatives purely at the state level.

Therein would reside yet another credit—namely, that the approach would preserve the pluralism in health care on which Americans place such a premium and for which they appear to be willing to pay a heavy monetary premium.

Finally, one must credit to the approach its extraordinary political appeal. Mandated benefits are taxes in the sense that they coerce fiscal transfers among private entities in the economy. They are, alas, pseudo-taxes that permit the politician to exercise the government's power to tax without having to book these taxes as government revenue and, thus, without assuming accountability for the disposition of the implied tax revenue. It is the dream of any legislator who would use the government's power to achieve preferred social goals and, at the same time, appear as a fiscal conservative.

And therein, of course, lies the first debit one would register against the proposal. Accountability for the use of the government's power to tax strikes one as the *sine qua non* of a properly functioning democracy. By its very nature, pseudo-taxation is dishonest taxation and, as such, is likely to engender dishonest public stewardship.

All taxes tend to drive a distortive wedge between the benefits and costs that flow from private decisions and accrue to the private decision-maker. So does the pseudo-tax of mandated benefits. Mandated benefits are, in fact, a form of payroll tax with roughly the same incidence and roughly the same negative implications for economic efficiency.

Of course, the owners of a business firm (proprietors or shareholders) can reduce their own share of the tax burden by passing on the tax to customers in the form of higher prices or, alternatively, by substituting the mandated, employer-paid benefits for cash wages that would otherwise have been paid—that is, by shifting the tax backward to the employee. That is undoubtedly the case in firms that now offer their employees health-insurance benefits voluntarily.

Mandated benefits are taxes in that they coerce fiscal transfers among private entities.

But high price-sensitivity on the part of customers or rigidities on the wage side may limit the degree of this tax shifting. If so, the effect of the tax is likely to be the substitution of labor-saving capital equipment for the (now more expensive) input of labor or, worse still, simply a reduction in output and employment. At least some of the working uninsured may thus be transformed by mandated benefits into unemployed uninsured.

Even if employers were able to shift the tax implicit in mandated benefits fully to their employees' cash wages, the ultimate incidence of that tax might then be quite regressive. For employees in the bottom two quintiles of the income distribution (see Table 1), that added tax burden would be devastating.

Finally, there is evidence that the bulk of the employed uninsured work for small business enterprises.[7] The latter tend to be the cutting edge of the economy. They have provided the bulk of new jobs created during the most recent economic expansion. Is it wise to saddle this entrepreneurial element in the economy not only with the fiscal burden inherent in mandated benefits but, worse still, with the bureaucratic burden of demonstrating compliance with the typically complex statutes passed by our legislators? There would doubtless arise yet another class of consultants deriving their livelihood from interpreting the government's wishes to the laity. Mandated health insurance would also, of course, drive these entrepreneurs into the arms of an insurance industry that traditionally has not distinguished itself in servicing small businesses.

Ideology has marred the discussion of health policy in this country.

Whatever one may ultimately conclude on the merits of mandated employer-paid health insurance, a supply-side measure it is not. From that perspective, it is probably one of the more harmful taxes one could contemplate and, possibly, a regressive one as well. Champions of the poor should favor it only if that were truly the only legislative relief in sight. One could, of course, think of alternatives.

For example, the federal government might provide a basic fail-safe health-insurance policy to which every American would be automatically entitled and for which individuals would pay with an honest income-tax equal to X percent of their adjusted gross income, unless an equivalently good private health-insurance policy were clipped to the 1040 tax form, in which case the individual would be excused from that health-insurance tax. Taxpayers who opt out in this way might nevertheless be required to pay, say, 1 or 2 percent of their adjusted gross income as an earmarked contribution to the fail-safe system. It would be that individual's membership in the Club of Civilized Peoples.

Benefits under the fail-safe system would be obtained from a set of local, competing health-maintenance organizations under contract to the government. Emergency care received elsewhere might be compensated under Medicare rules. Because of these constraints on choice, many Americans would probably prevail upon their employers to provide the traditional alternative. Such pleading would be apt to prevail in the coming era of an all-around labor shortage. By setting the tax for the fail-safe system appropriately high—perhaps progressively—the large bulk of Americans might be encouraged to remain within the private system. In contrast to full-fledged national health insurance, the system would remain pluralistic.

Limitations of space preclude a further elaboration of such a scheme here; it can be found elsewhere.[8] Suffice it to say that mandated employer-paid health insurance would not be inevitable were Americans prepared, at long last, to contemplate other options thoughtfully and without the burdensome ideological baggage that has marred the discussion of health policy in this country for so long.

Footnotes

1. *Preserving Universal Medicare*, A Government of Canada Position Paper, 1983; p.7.

2. The Canadian health-care delivery system actually resembles ours. Hospitals are predominantly private, nonprofit institutions; physicians are self-employed practitioners; and patients have freedom of choice among providers. Fees and hospital charges, however, are negotiated in advance and strictly regulated.

3. See, for example, the *Health Management Quarterly*, Fourth Quarter 1986. In the survey reported there, 80 percent of the respondents answered that question in the affirmative.

4. There is mounting empirical evidence that, through their single-buyer (monopsonistic) power, national health-insurance programs are easier mechanisms for cost control, which is to say, control over providers' incomes. Canada spends a much smaller percentage of its GNP on health care (about 8 to 9 percent) than does the United States (about 11.2 percent now). Most other national health-insurance systems fall into this range.

5. See *Health Message from the President of the United States Relative to Building a National Health Strategy*, February 18, 1971, House Document No. 92-49, 92nd Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office, 1971; pp. 14-19.

6. See Note 5 above.

7. Deborah Chollet, "A Profile of the Nonelderly Population Without Health Insurance," *Government Mandating of Employee Benefits*. Washington, D.C.: Employee Benefit Research Institute, 1987.

8. See Uwe E. Reinhardt, "Health Insurance for the Nation's Poor," *Health Affairs*, Spring 1987; pp. 101-12.

Representative SCHEUER. Now we'll hear from Mr. Evans, from our neighbor to the north. Let me say that Mr. Evans is currently professor of economics at the University of British Columbia. We are delighted to have you.

STATEMENT OF ROBERT G. EVANS, PROFESSOR OF ECONOMICS, UNIVERSITY OF BRITISH COLUMBIA

COMPARING THE CANADIAN AND THE UNITED STATES SYSTEMS

Mr. EVANS. Thank you very much, Mr. Chairman, and thank you for this opportunity to see how work is done on the other side of the fence. I was a little nervous, however, at your suggestion to Uwe Reinhardt that he should cease to be tonguetied because the thought of Uwe operating untonguetied is rather intimidating.

I'm in the difficult position, of course, coming last, that a lot of my best material has already been sent past you. But I'm a great believer that if a thing is worth doing it's worth overdoing, so I will do some of that again.

Uwe described himself as an immigrant. I'm in the position, of course, of being a guest here which means that I can go home again afterwards, but I am also in a somewhat ambiguous position as I realized listening to a comment that Mark Freeland made. The inability of the United States to manage the costs and the utilization patterns in its health care system is placing American industry at something of a disadvantage in international trade. It's imposing extra costs on the United States, a handicap in that race.

Now I'm not an American. The handicaps which the Americans impose on themselves are an advantage to my country in international trade. So why exactly again am I here worrying about the fact that the United States is facing not only costs substantially higher than our own at the moment but is projecting those costs to go up to 15 percent of its GNP by the year 2000.

From the point of view of a Canadian, worried about our general international position, my reply should be, well, too bad, chaps; keep at it; that's just fine.

However, like Uwe, I do feel a certain broader sense of moral responsibility.

Representative SCHEUER. You might not get as good quality of health care down in Florida when you go down to visit your condos in January or February.

Mr. EVANS. Well, actually, the provincial governments do run a medevac system to rescue people from the American health system. That is in fact true.

I think the most important aspect of the Canadian experience for Americans and, conversely, of the American experience for Canadians, because it does go both ways, is that we have inadvertently and together been conducting something like a continentwide social experiment for the past 30 to 40 years. We have two nations, as it is said, divided by little more than a common language. We have probably the closest similarity in cultures, in geographic experience, immigration experience. The patterns of Canadian and American culture, though far from identical, are probably about as close as you would get in any other pair of countries in the world—closer.

The medical care-hospital care systems that we have are also remarkably similar or at least have been until relatively recently. Our modes of payment for health care, however, are radically different.

So we have come rather close to a quasi-controlled experiment in that many of the other factors which would differentiate the behavior of health care systems are in fact held relatively constant across the border. So I would suggest to you that it is somewhat easier to draw out conclusive propositions from our mutual experience than it is when George Schieber is wrestling with 24 OECD countries. Conclusions from such a diverse group, if you could get them, would be remarkably powerful but it's awfully difficult to get them.

If you restrict your focus to two countries, it's a lot easier to see patterns. Of course, you are still wrestling with the question of whether you're really seeing the effects of the payments system or whether there's some other factor you've failed to standardize for.

But more than that, you cannot only look at the impact of different ways of funding health care on the way the health-care system functions, you can test the sorts of propositions that Karen and Uwe and George—both Georges—have been presenting. Even more important I think, you can extend your sense of the possible. You can look at a place like Canada, as we can look at the United States, and you can see, well, if they do things over there and have the following results, then it must at least be possible—it may not be desirable, it may not be possible for us, but it can be done.

So you can look at the Canadian experience of stabilizing its percentage of GNP spent on health care over pretty close to 20 years—you can look at that and you can say, that can be done. There are societies which have done it. We've done it.

When Dan Waldo tells you that there is an inexorable rise, that there are trends which will go on into the future and which have to happen, well, perhaps they have to happen in the United States. They do not have to happen in general. They are not part of the law of nature. They are not written into the structure of the universe.

Similarly, when we look at the U.S. experience with HMO's, we can go home and say, "Right, it is not necessary that we supply the same level of hospital care that in fact we do supply. We may be overutilizing hospital care in some sectors. Other countries, other populations looking rather like our own, do it differently and it works.

So I think that perhaps the most important thing you can get from looking back and forth across the border is to free yourselves—and we try to do the same, because the mirror works both ways—to free yourselves from the sense of inherent constraints, the sense that the world has to be the way it is. In many cases, it doesn't. And I think I'm not going to go into here things that Karen Davis has said and things that Dorothy Rice has said. You do have the power to reshape your world. The technology and the demography and all these things are powerful factors—influences—but in the end, you one way or another will have to control it.

Now taking off from there, the Canadian history—and I'll try to be very brief on the history—really turns critically on the date 1971. Prior to 1971, we were in the process of constructing piecemeal a universal hospital and medical care system. After 1971, we had it in place.

Representative SCHEUER. After 1971, you had what?

Mr. EVANS. After 1971, we had universal coverage for all citizens of Canada in every Province for all hospital and medical care costs, first dollar coverage, effectively—there are always a lot of details to be filled in in the footnotes—but effectively no direct charges to patients. Essentially when I or any of my family get ill, we go to see a physician, we may go to the hospital, and the financial arrangements are between the hospital or the physician and the Provincial government that pays on my behalf.

So when you look at our experience, 1971 forms the watershed. Prior to 1971, we were in a payment system which was in many ways like that of the United States. If you go back to 1950, we had predominant self-payment. We had private not-for-profit insurance. We had growing for-profit insurance. We were developing the way the Americans were, but as usual, with about a 5- or 10-year lag because we're a somewhat more primitive society.

The difference was that we made certain critical—sometimes I'm not sure how consciously we made them, but we made certain critical decisions along the way. We made the decision to go universal for parts of our system rather than partial for all of our system. In other words, we went into universal hospital care rather than going into partial physician and hospital care the way you did with medicare and medicaid. We took entire classes of services and went universal on them all at once rather than going categorical and picking up the pieces of the population which seems to have the greatest difficulties.

My reading of your experience is that the categorical form of thinking is built very deeply into the American psyche. Locate the specific group with a problem and go and fix their specific problem. You keep on squeezing the balloon or the pillow at each point. For whatever reason, we went the other way. We said let's pick hospital care, which seems to be the biggest problem, and let's deal with that for everybody.

Once we had gone univeral for one sector, it became natural to keep on expanding by going universal for additional sectors. Furthermore, once you have gone universal, you change the whole structure of the payment process. Once you cover all hospital care, there's no point in paying hospitals on fee-for-service. You pay them on administered budgets.

We've been in prospective payment for hospitals since I think forever, certainly as long as we've had a hospital insurance system, because there isn't any point, if there's only one insurer—there isn't any point in paying hospitals on individual fees. The insurance program for the Province sits down and negotiates the annual hospital budgets with each of the hospitals in its jurisdiction.

Once we had that principal in place, of no direct financial involvement of the patient for hospital care, it was natural to go the same way when we went into reimbursing physician services at the end of the 1960's. So the physician services plans were set up with no direct financial involvement of the patient. The physicians continue to be paid fee-for-service, but they are paid fee-for-service by the Provincial government according to fee schedules negotiated annually, bargained annually between the Provincial governments and the physicians.

So if you took the results of all this, by 1971, what we have is a system which deviates from the American on I think four key axes. One, we have a sole source funding system rather than the multiple sources that Uwe Reinhardt described. We don't have socialized medicine. What we do have is socialized insurance. We have a public monopoly over the insurance function. Physicians are still private practitioners. Hospitals are still run by voluntary boards. But the money all flows through one channel.

Second, we have coverage of the entire population in one system rather than a whole variety of different categorical approaches.

Third, we fund the whole thing out of general tax revenue rather than out of a multiplicity of sources—self-pay, premiums, public tax funds of various sorts—it all goes through one channel. All the dollars flow through one way.

Finally, from the patient's point of view, we have first dollar coverage to all intents and purposes. There is not an extensive array of direct charges to patients that patients have to cope with one way or another. In a sense what this does is it limits the moral hazard on the part of governments. Governments are always tempted to try to shift some of the costs back to patients. If you have a first dollar coverage system, you're holding the Government's feet to the fire. You're making it almost impossible for them to do that. That's an extremely important part of the control of our overall system, is basically disciplining our government, preventing them from shedding their responsibilities. In the United States it seems easier for governments to shed their responsibilities. I'm sorry. That was an uncalled-for political announcement.

Representative SCHEUER. No, because the Government hadn't accepted responsibilities in the first place, so they haven't had responsibilities thrust upon them.

Mr. EVANS. But it's not prepared equally to declare that it will not accept them. It wants it both ways.

Representative SCHEUER. That's right.

Mr. EVANS. That goes back to the Revolution, I think. You people have always had a problem that way. You wanted imperial defense but you didn't want to pay for it.

Representative SCHEUER. Well, I think our budget deficit 200 years after the fact would indicate we haven't improved.

COST CONTROL AND NATIONAL HEALTH INSURANCE

Mr. EVANS. Now let's very quickly run through what the impacts of that have been. You've already been told that health spending in Canada has stabilized, and has been essentially stable since 1971, as a percent of GNP. That's not necessarily an indicator of the best of all possible systems, but if your objective is to control costs, we have done it. The only exception to that is 1982 when we got caught in the great recession and our health spending leaped up by nearly a percent in 1 year.

Representative SCHEUER. That doesn't have to be your sole objective.

Mr. EVANS. No, no. I've got a few more. What that does, though, from the point of view of looking into the mirror or looking into the controlled experiment that I'm talking about, I think our experience conclusively refutes the notion—which was creeping into some of George Schieber's comments—that the level of health spending in a country is basically dictated by its level of income and wealth, that wealthier countries necessarily spend more than poorer countries do.

He is quite right that there is a statistical tendency in that direction, but one of the key outliers from that experience is Canada. There are some others. And I think everyone who has examined the Canadian experience, not just ourselves but other analysts from outside, have concluded, yes, indeed, the Canadian experience shows that policy in this area is possible. You're not dictated to by your income level and you are not dictated to by the overall structure of your technology and your aging population and so on and so forth. The key message is that policy is possible.

We actually were expanding at very much the same rate you were prior to 1971. When we had the institutions in place and we had the political will to do something about it, we were able to turn it around far faster than I think any of the analysts at the time anticipated was possible. I'm in print as having said it couldn't be done, by the way.

Representative SCHEUER. When you say the institutions were in place, are you talking about the institution of national health program?

Mr. EVANS. Yes. I'm reiterating what was said by earlier witnesses, which is that universal coverage is the means for getting costs under control. It is not a tradeoff between universality and cost control. They are in fact complementary.

Representative SCHEUER. Are you sure that's not—what you learned in high school Latin—a post hoc argument?

Mr. EVANS. I did indeed learn it in my high school Latin and, yes, I am sure, because if I compare your own experience with our experience prior to 1971, if I compare our experience with yours contemporaneously, and if I analyze the mechanisms whereby this was achieved, they all point in the same direction.

Now what I am not prepared to say is that you cannot have cost control without universality, because I don't know that. I don't think anybody knows that. But I am prepared to say that I have not seen anybody achieve that trick without universal coverage.

Representative SCHEUER. And you think that in your country the experience was that you achieved cost control in large part, if not entirely, because of the fact that you put a national health program in place in 1971?

Mr. EVANS. It was a necessary condition. It was not a sufficient condition, but it was a necessary condition. The sufficient conditions included the political will to go with it. And in this I am in complete agreement with the physician associations in Canada. Their argument is that that's a very severe problem because, as Uwe Reinhardt has very clearly pointed out, cost control means income control. But we're all in agreement that it is the universality of the system which is what permits the achievement of control. Because otherwise, you're still pinching the corners of the pillow or of the balloon. You can keep on doing that indefinitely.

ACCESS AND NATIONAL HEALTH INSURANCE

Now on the access side we get into some more severe issues. We have, as you know, succeeded in providing access to the entire population in the financial domain. The key issues surround the question of whether people actually get access to care, because obviously you can provide universal coverage by a system that doesn't have the capacity to provide the care.

It's much more difficult, as other witnesses have pointed out, to get a handle on whether or not we are rationing care in a sense which has any implications of damage for our population. We do, however, have some numbers. We have as many physicians as you do and they seem to work as hard. We have even more time spent in hospital beds. We have fewer pieces of heavy diagnostic equipment, but we use them more intensively. By the way, we also use our hospitals more intensively. Occupancy rates run 80 to 85 percent as compared to yours which, I gather, are now down to about 60 percent.

Representative **Scheuer**. In New York City they hover around 100 percent.

Mr. **Evans**. OK. Fair enough.

Representative **Scheuer**. There are varying experiences.

Mr. **Evans**. All generalizations are false and generalizations about the United States are even more false, yes. Fortunately, Canada, as Uwe Reinhardt has pointed out to me, is a completely homogenous country, which makes these things much easier to talk about.

We know, for what it's worth, that our health status indicators are no worse than yours and in some respects better, but we also agree with the analysts here who say that we don't know how much that has to do with the performance of the health care system.

So on the access side, we would emphasize——

Representative **Scheuer**. Hold on a second. What would it have to do with? Genetics?

Mr. **Evans**. Some genetics. To a very large degree, it appears, socioeconomic status. There are very clear gradients in this country, in Canada, in Britain, I think everywhere that anyone has looked, there are clear gradients in health status that are associated with socioeconomic status—with income, with employment, with all those sorts of things.

Representative **Scheuer**. With education?

Mr. **Evans**. Yes. The work of Tom McEwan I think has shown very clearly that the major gains in health of Western populations have not come through the contribution of medical and hospital care, but have come through better diet, better access to all the conditions of life, stopping smoking helps a bit.

U.S. SYSTEM MORE FLEXIBLE

So the point is that there are a whole lot of other factors that perturb those numbers and one of the things—I've been telling you some of the good things about the Canadian system—I think one of the problems that we have with our kind of system is precisely that it tends to freeze in place the way we think about hospital and medical care, that the health care system becomes defined in terms of what governments are prepared to pay for. So one of the most interesting aspects of the American system to us is the extraordinary diversity of ways of organizing care, of ways of paying for it, of ways of linking hospitals, doctors, and other professionals together. We're not altogether sure we want to be living in the middle of this boiling experiment, but it is very interesting to watch from outside.

Our own system is much more difficult to move. It really is a lot more stodgy, partly because everybody is pretty satisfied with it. We have no real constituency for radical change.

DIFFERENCE IN COSTS IN CANADA AND UNITED STATES

If we try to partition out, though, where the savings have come, where the big difference between you and us is, and the difference now—I'm not sure listening to this morning's presentation whether I should be thinking about the United States as 11.1 percent of GNP or 11.6—but basically, ours is still 8.6 on the most recent numbers I could pry out of Ottawa. They tend to be a bit close-mouthed. So you're talking about a difference of either 2.5 or 3 percent of GNP between Canadian and United States spending by now.

Now that is really quite a remarkable amount of money. That's the difference that Uwe Reinhardt pointed to in what we make over to the providers of care and what you make over to them. Where does it go? Well, about half of 1 percent of GNP—now half of 1 percent sounds small, but when you multiply it by GNP you're talking about $20 to $25 billion so it's not trivial—is recorded as the extra costs of overhead of running your system. Uwe has emphasized this enough I think, but the costs for pushing around the paper in your system, the insurance premiums less the amount of benefits paid, seems to run about $20 to $25 billion.

In addition, your hospitals and to a lesser extent your physicians' offices have an extraordinary complement of people running the business offices—the accountants and the bookkeepers and the beancounters. Uwe is quite right. Our hospital administrators snicker as politely as they can when they look at the overhead personal cost per patient day in the United States. A lot of what you record as the intensity of services received by patients is servicing that they get from accountants, from management consultants, and from public relations specialists. To be quite blunt—if I were unfortunate enough to be in a hospital, I would much rather see a nurse and possibly even a physician, but certainly not a public relations specialist. That isn't really who I want to talk to. But that's who you're paying for.

Now those two items in total—the administration and prepayment costs separately recorded in your statistics, and the insurance costs implicitly in your statistics but buried in your hospital budgets—look as if they come very roughly to something like a full percent of GNP. Of that 2.5 percent difference between our two countries, that's about 40 percent of the total. One percent of GNP out of a total 2.5. Those estimates are a bit rough but that's the order of magnitude that we're talking about.

Now to the extent that you're just paying people to push paper, you shouldn't expect any difference in health status or outcomes. Of course we're going to do as well as you are; accountants don't contribute that much to your health as a general rule.

The second major component—again, Uwe hinted at this—our physicians' fees have risen no faster than the general inflation rate since 1971. There is a view around that service industries necessarily inflate faster than the rest of the economy. This is not correct. It really depends on the pattern of innovation in those industries. Our physicians have had to live with, first, declining real—that is, relative to general price levels—fees in the early 1970's, followed by pretty much stable real fees thereafter. Yours have consistently had fees outrunning the general inflation rate. The difference is between bilateral bargaining where they have to come to the bargaining table and fight for their fees, and a system where they can set their own fees. And that's been the second major difference in cost between the two countries.

Needless to say, another difference then is there's a much higher level of overt conflict in our system, that there are ritualized combats held yearly and sometimes within the year as physicians tell us that the whole system is coming unstuck and the Provincial governments tell us that the budgets are collapsing. Most of this is political theater, but it's important that it goes on because it focuses the combat between those two parties and leaves me out as a citizen, a taxpayer, a potential patient—I don't have to get into this fight.

Now I think there's a lot of conflict going on in your system as well, but I think it's suppressed. It takes place down at the individual level where the person with the bullet in her back doesn't get the services, but we don't hear so much about that. We hear the occasional case, but there isn't any institutionalized megaphone to expand the sense of conflict and to create the combat.

The other source of combat in our system is that precisely because it has been successful in controlling costs, there are a lot of people cheesed off about that. They were the people who hoped to earn those costs as expanding incomes and that's inevitable. If you succeed in cost control, then you must accept conflict on a long-term basis. It won't go away. It's like labor-management negotiations. It's with you permanently.

The third area in which we have made the difference in cost is in hospitals. In hospitals we really do provide less intensive servicing. This is again a point that's come out already. Some of that difference is illusory because we don't have as many accountants hanging around. Some of it is because we have a lot more of our long-term care people in the hospitals that you would have put in nursing homes. So when I say we use a lot more hospital space, partly it's because we have chosen to withdraw beds from availability by filling them up with long-term care patients, whereas you leave them empty.

In reality our acute care sector is shrinking, much the same way yours is under the prospective payment system, but it's hidden in the numbers. You have to dig around a bit before you can see the reduction.

But when you get down to the really hard questions that other speakers have pointed to—value for money, do we know whether what we're doing is worth doing? Are we an efficient, cost-effective health care system? We don't know. The hard fact is that the providers jealously guard their autonomy. The Provincial governments are desperately relieved that the system doesn't cost any more than it does. And neither party to that discussion really wants to get into the grubby details of whether a great deal of waste is still going on or whether anybody is suffering in detail. We have I think come less far than you—quite a lot less far—in the whole field of technology assessment and evaluation of what is being done.

In defense of ourselves, I would argue that while you're a long way ahead of us on the technology of evaluation or the evaluation of technology, both, you're no further ahead in how to transmit that into the behavior of your health care system. The transmission belts to go from what you know to what you do are not there in the United States and they're not really there in Canada either.

So when I think you asked what do we and the rest of the world know that Americans don't, in the presence of my learned colleagues I have to say not a great deal. We've been a little more successful in applying what we do know. I think we know a little less that's not so, among our economists, but on the core question of the cost effectiveness of what we do, we haven't I think been any more successful in applying rational analysis to that than you have.

Representative SCHEUER. Let me just interrupt you. You say you haven't been more successful in applying rational analysis, but you seem to have a system whereby once or twice a year the representatives of the providers get together with the representatives of the payers and they squabble like hell. You put them in a room and you lock the door and you throw away the key and there's a lot of scratching and yelling and hollering, and they come out with rate structures and payment schedules that are rational and that don't seem to lead to medical price increases that exceed the increases in the general price level.

Mr. EVANS. This is right, but this is for doctors only. Hospital services are provided by budgets in which the Provincial government is basically on the surface dictating a budget subject to the kinds of political backlash which come if a hospital can convince a community that it's underfinanced, but we really—the battles with physicians are over fees. The question of do we need more MRI machines, should we—we have fewer per capita pieces of heavy diagnostic equipment, for example, than you do. We do fewer cardiac bypass operations. You do a lot that aren't necessary.

Representative SCHEUER. That's right. You have to do fewer because they're medically not indicated or the equipment isn't available or you can't afford it. You do fewer.

Mr. EVANS. Well, the two become interlocked. When the equipment isn't there, then the medical indications change.

Representative SCHEUER. Well, I take it you have some kind of regional planning.

Mr. EVANS. Yes.

Representative SCHEUER. On the availability of CAT scanners and similar medical equipment. Does everybody for whom a CAT scan would be appropriate get a CAT scan or does scarcity impact on the availability of a CAT scan?

Mr. EVANS. We believe that everybody who needs one gets one. The legislation setting up the system says all "medically necessary" services are provided. In a way, we're like an HMO. Just as an HMO contracts to provide all medically necessary services to its enrolled population, so a Provincial government is politically contracted and bound to provide all medically necessary services to its population.

Now if you get into an argument over whether we need more machines or not, do we know at the margin whether the additional—if you have the machines they will be used. We do know that. But will the additional services be of any particular use to anybody or not? The process for deciding that is all pretty informal. It's all rather loose. And as an outsider, I'm uneasy that I would like to see more formal evaluation and more assessment of the scientific evidence.

QUALITY OF NATIONAL HEALTH INSURANCE

Representative SCHEUER. Well, let me interject another question before you get to your next point. You told us that your system is a little bit turgid and and a little bit rigid on the introduction of new technologies, new methodologies, whatever.

Mr. EVANS. Stodgy, I said.

Representative SCHEUER. Looking back over a decade or two, almost two decades since 1971, would you say looking at the length and breadth of the Canadian health care system that this perhaps additional rigidity in your system over ours with our pluralistic design where anybody can get into the act and do almost anything, at least for a while, has that resulted in a lesser level of care? Are there drugs, are there treatments, are there surgical operations at the cutting edge of new technology that are not generally available?

Mr. EVANS. No. That's certainly not true. We do stay up with the new technology and I think we got our lithotripter in Vancouver before anybody in the United States had one.

Representative SCHEUER. All right. Then what is it that——

Mr. EVANS. The problem is, we got one and we got it first and we got it fast. We got an MRI machine in fast. But we don't proliferate it out to the community hospitals at the same rate that you do. This comes back to this regional and Provincial planning again. We keep a much tighter grip on how many of these things get out into the community.

Now the thrust of your question is do I believe that as a result of that Canadians in general are suffering from——

Representative SCHEUER. How about back in the rural areas, do they have access?

Mr. EVANS. Sure they do because——

Representative **Scheuer**. I don't see where you're suffering at all then.

Mr. **Evans**. There is no evidence that would say we are. And there is certainly general belief by all the people—certainly the payers, certainly the general population—that we are not. What I'm saying, though, is that if you wanted to get hard evidence of the type acceptable to the Office of Technology Assessment one way or another, we don't have that. We haven't controlled the system by that degree of rational analysis.

IMPORTANCE OF CARE ASSESSMENT

But the final point I think that I did want to get out of this was that that kind of detailed analysis of value for money is extremely important. Secretary Califano mentioned that this morning. Several other speakers have, and I would agree, and it's in my evidence as well. It's extremely important to know about the value for money that you're getting.

That, however, is neither a necessary nor a sufficient condition for cost control and access control. We have the control of costs without that kind of detailed knowledge. It is not clear to me that if you had that sort of detailed knowledge in the United States you would necessarily get any kind of better cost control. I don't believe that the two are that tightly linked. I think it's important to do, extremely important, but the overall question of providing access and controlling costs is a separate question. It's something that with our institutions we have succeeded in doing.

In the meantime, the system that we have is overwhelmingly politically popular. All the major pieces of Federal legislation have been passed in the House of Commons unanimously because for anybody to vote against them would be political death, and we have come much closer to what Secretary Califano was mentioning, of shifting from "if in doubt do" to "if in doubt don't." In the meantime, as I think I made a remark in my testmony, we're smiling all the way to the bank.

[The prepared statement of Mr. Evans, together with an attachment, follows:]

PREPARED STATEMENT OF ROBERT G. EVANS

A MIRROR CLOSE BY

The North American Experience With Health Care Funding and Health Expenditures

A. Health Care Funding in Canada and the United States - An Inadvertent "Social Experiment" on a Continental Scale

(i) Very similar, though not identical, societies, with common language, closely related cultural and geographic experience, and tightly linked economic and communications systems.

(ii) Likewise very similar medical care "industries" - effectively identical technology and training programs. Medical care in both countries is predominantly provided by independent fee-for-service physicians, with admitting privileges at not-for-profit "voluntary" hospitals run by boards of trustees or municipalities.

(iii) Radically different processes of reimbursement for medical and hospital services, superimposed on similar delivery systems - Canada has, not "socialized medicine", but "socialized insurance".

(iv) Thus, the comparative experience of the two countries provides an opportunity to study the impact of alternative modes of funding on the health care delivery system in a "quasi-controlled" environment. Other confounding factors are not non-existent, but are as close to constant as one would find in any pair of countries in the world.

(v) This comparative experience enables students of health care in both countries to draw inferences about what might have happened, if different policy choices had been made at particular points in time. It also expands the sense of the possible - what has happened in the other jurisdiction is obviously not *a priori* impossible, whether or not it is desirable, or possible here. And it provides clues, if not always definitive conclusions, as to the likely consequences of suggested policy interventions.

(vi) Health care delivery systems in Canada and the United States have become less similar over the last twenty, and particularly the last ten, years, with the development of for-profit institutions and a more "competitive" environment in the U.S. This divergence, however, is more plausibly interpreted as a consequence of the differences in reimbursement systems in the two countries, rather than an external factor confounding their comparison.

B. The "Road Not Taken", Before 1971 and After

(i) In the post-war period, Canada and the United States had very similar funding systems for health care, though (as usual) the institutional evolution in Canada was some years behind that in the U.S. Both were based on a mix of self-payment and private insurance, with public support, largely at the local government level, for the indigent. Private insurance was predominantly not-for-profit, provider-sponsored ("The Blues"), and community-rated, but for-profit firms offering experience-rated coverage to low-risk sub-populations were steadily expanding their market share.

(ii) In both countries, it was clear that the combination of increasing costs of care, and the erosion of community rating in the private insurance market, would create a growing proportion of the population who could not pay for needed care, or afford private insurance.

(iii) The United States responded to this problem categorically, with specific programs for disadvantaged groups. Canada, first in particular provinces and then under national legislation, chose instead to extend the "community rating" principle and provide universal coverage to the entire population through a public system.

(iv) In Canada, coverage was however first provided only for hospital care: by 1961 every province had a public program in place reimbursing all "medically necessary" hospital services. Because each was a single plan, covering all care for a defined population and group of hospitals, hospitals were reimbursed by direct budgetary allocation, rather than by fees for particular services.

(v) Furthermore, the budget review and reimbursement process meant that the whole financial relationship lay between the public program and the hospital. Individual patients were, and are, not charged for services.* The public programs in turn are financed from general government revenues, raised from taxes; some provinces have a system of compulsory "premiums" but these are effectively part of the general tax system.

(vi) In the 1960s, the system of public coverage was extended to cover physicians' services. In this case, physicians continued to be reimbursed by fee for service, but according to uniform schedules negotiated periodically between the provincial medical association and the provincial insurance program, and by the progam, not the patient.* By 1971, every province in Canada provided coverage for all of its residents against all "medically necessary" costs of hospital and medical care.

(vii) The differences between the Canadian and the American approaches to health care reimbursement, therefore, can be summarized as:

a. Sole-source versus multiple-source funding: the Canadian provinces are virtually the only reimbursers for hospital and medical care. Funds flow into the American health care system from many sources and through many channels. No one agency has both fiscal responsibility for and administrative authority over total outlays on health care.

b. Universal versus categorical funding: The Canadian programs cover all residents in each province or territory, and portability arrangements provide effective national coverage. In the U.S. insurance coverage depends on a large number of aspects of status or behaviour - present or past employment, premium payment, age, income level, or residence.

c. General tax revenue versus mixed source funding: The burden of paying for health care is in Canada distributed in proportion to that of the overall tax system, and is as equitable or inequitable as that system. In the United States part of the burden is distributed in this way, but part (about one-third) falls on those who experience illness, as they pay for their own care, and part flows through private insurance premiums, which are more or less related to the expectation of illness and of care.

d. First dollar versus partial coverage: The Canadian public plans pay the full cost of care, directly to the provider, so that the patient *qua* patient (as opposed to *qua* taxpayer) is not financially involved. American public programs similarly deal directly with some providers; with others they reimburse the patient and the patient is responsible for the provider's bill. In either case, the patient may be required to pay a significant share of the bill. Private insurance arrangements likewise offer a range from the "classical" HMO, with no direct financial involvement of patients, to partial reimbursement of the patient for the provider's bill.

* Like all generalizations, these are false. "Extra-billing" by physicians - direct charges to patients over and above the provincial reimbursement rates - has a long and fascinating history, originally being permitted but under very different adminstrative restraints in the different provinces. It was always more important symbolically than quantitatively, however, and subsequent to the Canada Health Act of 1984, it has been eliminated in all provinces. Some provinces maintained a token charge for hospital days, which has now also disappeared. The statements above are "95%" true for the last twenty years, and are now "99+%" true.

C. Health Care Funding Matters: The Diverging North American Experience After 1971.

(i) The most readily apparent impact of the differential approaches to funding is on overall outlays on health care. The "cost explosion", which is apparent in the data for both countries during the fifteen years prior to 1971, stops in Canada after that date. In the United States it continues. In 1971, both countries spent a very similar share of their national income on health care - about 7.5%. By 1987, the proportion in the United States had risen to over 11%; in Canada it remained virtually static through to 1981. The ratio jumped to 8.6% in the Great Recession of 1982, and has remained there since. Hospital and medical care, as the dominant components of this total, show the pre- and post-1971 break in Canada even more clearly.

(ii) Thus the comparative experience conclusively refutes two different but related hypotheses:

a. Health spending in different countries is determined by their level of income and development, and/or

b. Whatever the specific factors determining outlays in any country, they are beyond the reach of deliberate policy.

Canada's quite different pattern before and after 1971 shows both that the stabilization of costs is possible, and that it can be achieved quite abruptly by specific institutional changes. Universal sole-source funding led directly to cost control.

(iii) The second clear impact of funding is on access to care, at least in its financial dimension. It is widely reported that nearly forty million Americans lack any health insurance, and another large number have coverage which is grossly inadequate to respond to any serious illness. A much larger proportion of the population has coverage which still exposes them to the risk of substantial personal outlays, in the event of illness. In Canada, all residents have virtually complete coverage, with no personal financial liability for care.

Non-financial aspects of access to care are much more difficult to quantify, and to compare unambiguously - see below. But it is quite clear that the removal of financial barriers to care, comprehensive coverage of all hospital and medical costs, is quite compatible with overall cost control. In fact, Canadian experience strongly suggests that universality and comprehensiveness may be a requirement for cost control, rather than, as commonly assumed in the United States, militating against it.

(iv) Thirdly, as noted above, the health care system in the United States has become much more diverse organizationally in the last decade. This has not occurred in Canada; the form of care delivery is virtually unchanged since the public programs were introduced. The technology of care has certainly changed, as everywhere in the world, and the relationships between the providers of care and their public reimbursers have evolved significantly, but the basic pattern of self-employed physicians using voluntary hospitals, remains not only dominant, but virtually universal. Universality inhibits diversity, for good or ill.

(v) The level of conflict in the Canadian system has become much more apparent, with the universal public system, and particularly in its relationships with physicians. The first such plan, in

Saskatchewan in 1962, had to weather a physicians' strike, as did the ending of extra-billing in Ontario in 1986. It is less clear whether the conflict is actually greater in Canada, or whether in the United States conflict is simply diffused through a vast array of individual transactions, and thus suppressed. But the open and apparent conflict in Canada is certainly greater - perhaps not unrelated to the fact that in Canada cost control has been successful.

(vi) The principal expectation that a society has of its health care system is that it should contribute to the health of individuals, and of the populaton as a whole. But the available indicators of health status are still too crude to permit any serious judgement of the relative impacts of the two systems. There are several competing hypotheses:

a. Canadians should be healthier because they have access to care unrestrained by financial barriers; Americans cannot always get the care they "need".

b. Americans should be healthier because they spend more on care; the state-controlled Canadian system is "underfunded" and denies its citizens access to expensive but effective interventions.

c. Health care has little to do with health anyway, so one should not expect to find differences.

At this point, for the population as a whole, we simply do not know. At the individual level, however, Canadians are spared the periodic "horror stories" of people suffering or dying when denied care for financial reasons.

(vii) Finally, population acceptability is similarly difficult to compare. The Canadian system is overwhelmingly popular among the electorate. All major pieces of federal legislation on the subject have been passed unanimously by the House of Commons - to be openly against Medicare is political death. Opposition in detail, which probably represents covert opposition in principle, continues among the medical profession, and in some provincial governments, but is very much a minority position. Attitudes in the United States are harder to gauge - again the absence of institutions to concentrate opinion. Ritual references to "the world's best health care system" remain common, prompting a Canadian to ask, "compared to whom?"

It is, however, probably very significant that in Canada citizens - patients and taxpayers - are overwhelmingly satisfied while opposition comes from the providers. In the United States, dissatisfaction seems, to an outsider at least, to be more common among users of and payers for the system. The conflicting interests seem to be differently balanced.

D. Health Care Expenditures - Income and Resource Control

(i) As a matter of accounting definition, total health expenditures in any society are always and inevitably equal to the total incomes earned from the provision of health care to the members of that society. Thus the remarkable difference between trends in total health expenditures in Canada and the United States has an exact counterpart in differential trends in incomes earned. These in turn are made up of a combination of lower rates of payment for those supplying services, and lesser amounts of services supplied.

(ii) The most obvious differential between the two systems is in the overhead costs of administering the reimbursement process itself. The multiplicity of different insuring agencies in the United States generates three kinds of costs:

a. The outlays on "costs of prepayment and administration" - basically the difference between premiums paid in and benefits paid out -, as reported in the National Health Expenditures statistics of each country,

b. The administrative costs included in the budgets of hospitals, medical practices, and other institutions, which are required to establish the eligibility of patients, and to deal with the claims requirements of insurers, and

c. The monetary and non-monetary costs of compliance with insurer requirements which are imposed on the insuree.

(iii) The first category - prepayment costs identified and reported in the expenditure data, are about five or six times as high in the United States as in Canada, and rising rapidly. The differential costs of administering the payments process, as opposed to paying for care, account for about one-half of one percent of Gross National Product. The total cost differential between the two systems is now, as noted above, about two and one-half percent of GNP - in relative terms Canada spends about three-quarters of the U.S. amount.

(iv) In addition to these reported costs, the administrative costs included in the budgets of hospitals and the overheads of physicians' offices - thus included in total health expenditures but not separately identified - are recognized by administrators as very large. They have been roughly estimated as perhaps another one half percent of GNP.

(v) This implies that the extra costs of administering the U.S insurance process amount to something in the neighbourhood of a full percent of GNP, or about forty billion dollars. In addition to these costs, the multiple-source system imposes significant, but unquantified, costs of organization, compliance, and sometimes negotiation, on patients and others, which are not counted in the overall expenditure statistics. Thus an important conclusion from the two country comparison is that a multiple-source reimbursement system is a great deal more expensive to operate than a sole-source public system, and that at least up till now, efforts to create a more "competitive" system, or "managed" care, have added substantially to these overhead costs.

(vi) The second major component of the cost differential between the two systems is the difference in trends in physicians' fees. In the United States, physicians' fees have consistently risen faster than the general price level, in virtually every year since the Second World War. In Canada, this was also true prior to the introduction of the public insurance plans. After 1971, however, physicians' fees in Canada fell sharply in real terms. Since 1976 they have more or less kept pace with the general inflation level. Thus another conclusion from the comparative experience is that uniform, negotiated and binding fee schedules can significantly reduce the rate of escalation of physicians' fees.

(vii) There are competing hypotheses about the impact on physician behaviour of fee controls. Some argue that physicians will respond by reducing their effort and output, and that fewer will enter the field/more will leave. Others, argue, in direct contradiction, that physicians are able to manipulate their servicing and/or billing patterns so as to offset any effect of fee controls on their overall incomes. The American data favour the latter view; the Canadian data conclusively refute the former. The experience with fee negotiations, over twenty years in ten Canadian provinces, shows that physicians do in fact change their billing patterns to offset the effects of limits on the escalation of their fees, but that the responses are incomplete, and the net effect is that overall costs rise less rapidly under fee negotiation.

(viii) The negotiation process is, however, critical. Fee-setting is an on-going game between parties with strong opposed interests, and the ability to respond to each other's tactical manoeuvres. As physicians open or discover and exploit loopholes in any fee schedule, the results must be detected, measured, and brought into the next round of bargaining. It is not a one-time process, but is much more like labour-management negotiations.

(ix) The third major area in which Canadian and United States experience differs, is in hospital budgeting. Costs per patient day have been rising steadily in both countries, but after adjustment for increases in hospital input costs, the "intensity of servicing" - the procedural content and expense of hospital care - has risen faster in the United States.

(x) But this differential in hospital servicing patterns is difficult to interpret, for two reasons. First, as noted above, a substantial part of the difference in hospital costs between the two countries is in the administrative overhead of U.S.

hospitals. Outlays on patient care are much less different. But we do not know if the extra costs of non-care activities are also growing more rapidly in the U.S., although the increased emphasis on "managed care", "competition", and marketing in the U.S. would certainly suggest that such increases are responsible for part of the difference in intensity of care. Patients in U.S. hospitals are receiving increasing numbers of services from accountants, management consultants, and marketing specialists, as well as physicians, nurses, and diagnostic technicians. Canadian patients do not receive these extra services.

(xi) Second, overall utilization of hospitals in Canada has been rising, while that in the U.S. has been falling. But the difference is accounted for by increased numbers of very elderly patients occupying beds in long-term care units in Canadian hospitals, in many cases until death. In the U.S., such patients would be in nursing homes. Use of genuine acute care beds by acute care patients in Canadian hospitals is actually falling. If one were able to isolate the pattern of servicing received by only the genuine acute care patients in Canada, it is quite possible that this would be rising as fast as in the U.S. With present accounting systems the acute and long-term cases are mingled, and we simply do not know.

(xii) We do, however, know that the funding system in Canada limits the numbers of specific pieces of expensive "high tech" equipment in hospitals, encouraging regionalization and sharing rather than inter-hospital competition. Moreover such equipment seems, anecdotally, to be more intensively used, as are hospitals themselves. Occupancy rates in Canada run, on average, between 80% and 85%, with 95% typical of large metropolitan hospitals.

(xiii) Finally, we know that prospective global budgeting combined with direct restrictions on capital spending has in fact led to less rapid escalation of hospital costs in Canada.

E. Access and Effectiveness: Some Questions Answered, Others Remaining

(i) The principal challenge to the Canadian system is mounted by providers, and arises from its most conspicuous success, the control of expenditures/incomes. Is the overall system "underfunded", are Canadian patients suffering as a result, and will the funding system be modified in future as a result?

(ii) Insofar as the savings in the Canadian system arise from much less costly administration of the reimbursement process itself, there is no reason to expect these to have any implications for servicing levels, or patient health. The income losers here are insurance companies, marketers, managers and consultants - not physicians or nurses. Indeed private insurers, recognizing their loss of business opportunities, have been consistent opponents of the public insurance system but without much political effect.

(iii) Much more contentious have been the relations between payers and physicians, not surprisingly in view of the direct link between cost control, fee control, and physician incomes. Since expenditure control has limited the income growth of physicians, it has generated intense political opposition - as would any effective scheme to do so. But there has been no corresponding threat to access to care, in the sense that there has been no effect on the rate of recruitment to medicine, or on the rate of withdrawal. Threats to leave have not materialized, and indeed the physician-to-population ratio is continuing to rise at between 1% and 2% per year. The present policy concern is with too many physicians.

(iv) Nor have physicians reduced their billing activity - quite the contrary. Output per physician, adjusted for fee changes, is still rising. Physicians' strikes do indeed impede access, but two in twenty-five years, and in different provinces, does not seem extreme.

(v) The real concern is, or should be, in the area of hospital care. Budgetary controls on both capital and current expenditures do appear to have led to "downsizing" of the acute care sector, particularly by crowding out from long-term patients. The principal measureable impact has been falling lengths of stay in acute care - just like the U.S. Prospective Payment System! But overall, rates of acute care use remain at or above U.S. levels. If there is an access problem, it is in access to particular diagnostic and therapeutic manoeuvres, not to hospital beds *per se*.

(vi) But this leads us back to the questions of impact of health care on health. If Canadians undergo fewer procedures per year than Americans do, are they deprived - rationed - or are Americans overserviced? The latter is certainly a serious concern, and there is substantial evidence consistent with this view.

(vii) The fact is, however, that in neither country is there much effort to carry out, and apply, population-based analyses of effectiveness. Most Canadians - organized medicine excepted - seem satisfied that the current level of intervention is appropriate, although the periodic ritualized "shroud-waving" by the profession creates periodic unease. But neither critics nor defenders, much less users, have the hard evidence that should guide decisions as to appropriate service capacity and utilization.

(viii) This situation, of large quantities of expensive services provided, and paid for, in almost total ignorance of their effect, is by no means unique to Canada, or to North America. But a substantial question for future analyses of our comparative performance is, which system is better at generating information about the effectiveness of health care, of separating the wheat from the chaff, and then of shifting its behaviour to take account of that information?

(ix) This is the critical question in all health care systems - how to determine what is worth buying, and even more difficult, how to make the health care delivery system respond to that information or those decisions. To some extent this is a "values clarification" exercise - what health effects do we consider worth paying for? But those who would have us focus our attention exclusively on some "grim trade-off" between withholding lifesaving technology (usually someone else, at a lower income or with less complete insurance) and going into national bankruptcy, do us a disservice by deflecting the debate from the much more prosaic and immediate issues of how to identify and control the large amount of expensive health care activity with no positive benefits at all.

(x) Nor is overmuch attention to demographic trends healthy for health policy. In both countries, the aging of the population is leading to increased pressures on health expenditures. But the magnitude of these effects is not particularly dramatic - about 1% per capita per year. Investigators have consistently found that it is the changing patterns of care at each age level which are placing the pressures on the health care system. It is not the numbers of the elderly, or their ages, but the increases in what we do to and for them, which are critical.

(xi) At present my judgement would be that the United States has a substantial advantage in the whole field of "technology assessment" - partly but not wholly for reasons of size. This advantage has not, however, been translated into an advantage in the rate or extent of adaptation to this new information. Whether the much more dynamic and diversified American delivery system will eventually succeed in creating such adaptive processes, is not yet clear.

(xii) On the other hand the stodgy Canadian system, which Walter McClure describes not inaccurately as a "public utility model", is not in fact quite as stodgy as it looks. Efforts are underway to build in evaluation and adaptation through the administrative process, and despite the common assumption of the economically minded that administrative systems can never keep up with, let alone surpass, "the market", that is not in general demonstrable either *a priori* or on the evidence. For the moment the jury is still out on both systems, and likely to remain so for some time. In the meantime, Canadians are very satisfied with their system, and smiling all the way to the bank.

Attachments/Sources:

(1) "Finding the Levers, Finding the Courage: Lessons from Cost Containment in North America" (R.G. Evans), in Journal of Health Politics, Policy and Law, Vol. 11, no. 4, (Winter, 1986) pp. 585-615.

Finding the Levers, Finding the Courage: Lessons from Cost Containment in North America

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Abstract. "Learning" is broader and more complex than simply the orderly acquisition of new knowledge. At least as important is the evolution of the background of assumptions and beliefs held by the community, or its principal decision makers, and implicit in its institutions and policies. These may bear only a loose relation to evidence or knowledge narrowly defined. The pressures of cost escalation over the past twenty years, and the attempts at containment in the U.S. and Canada, have added substantially to our knowledge of how the health care system works. Containment is possible, and the successful mechanisms, thus far, are quite specific. But the results of these attempts and (in the U.S.) the continued escalation have also significantly shifted the broader set of assumptions in the community about appropriate priorities and policies in health care. Attitudes towards physician supply, variations in practice patterns, capitated practice, and for-profit organization, for example, have changed radically, although the supporting evidence has not. But cost pressures have created an audience which wants to hear, whose background assumptions provide a different "fit" for the evidence.

Expenditures on health care in the United States have been rising at a faster pace than the general rate of growth, and therefore taking up an ever-increasing share of national income, roughly since the end of World War II. Health care cost escalation has thus been the experience of an entire generation. For the first half of this period, roughly until the mid-1960s, this expansion was regarded (by most of those who were conscious of it at all) as a "good thing," a humane and proper way to spend, or even invest, the extra production of a growing economy.

Concerns about the "cost spiral," however, began to emerge during the 1960s. These concerns have become increasingly acute as the upward trend has continued, with periods of apparent stabilization followed by resurgences of growth. By 1985 the United States was devoting 10.63 percent of its gross national product to expenditures on health care, up from 5.94 percent in 1965 and 4.06 percent in 1948; expenditures are projected to be over 12 percent by 1990.[1] This escalation has kept health care cost containment near the top of the domestic policy agenda,

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and a number of general strategies and specific policies have been suggested in response. Some have even been tried.

None, however, have worked. Proponents of the currently fashionable strategy of relying on competition, for-profit motivation, and the forces of the marketplace continue to see light at the end of the tunnel. Competition, in some broad sense, will eventually limit the escalation of costs, although exactly when is obscure. (Most economic analysis is based on static equilibrium models, which are silent as to the time path of adjustment.) And it may be so, but by 1986, after several years of such policies, it has not happened yet.

This record of failure suggests that the principal lesson to be learned from cost control is that it cannot be done. Then, human nature being what it is, the next step is a "sour grapes" argument that control is probably an inappropriate objective anyway, although this conclusion is more popular among academic analysts (and, of course, health care providers) than among those who pay the health care bills.

But this conclusion, though in one sense comforting as an explanation or excuse for the American record, is incorrect. A closer examination of the evolution of health care expenditures and of efforts to control them, particularly in the light of comparable international experience, yields a number of inferences both about the way in which the health care system functions and responds (or fails to respond) to particular incentives, and about the sorts of policies which are likely to work in the future.

Moreover, and perhaps most important, the experience of the past twenty years has brought about a significant shift in the way in which the rest of society, or at least many of its key decision makers, view the health care system. "Learning" is much broader and more complex than the orderly acquisition of new knowledge, "scientific" or otherwise. It includes the evolution of the broad general background of assumptions and beliefs which people bring to particular issues and problems. Very rarely, if ever, is the knowledge base sufficiently complete and secure to provide a definitive answer to a real-life policy question. Rather, as Samuel Butler noted, "life is the art of drawing sufficient conclusions from insufficient premises."

In the process, we draw on a large, semiconscious collection of "things we believe when we do not know," a sort of set of default assumptions. And it is this set of assumptions, at least insofar as they relate to the provision and pricing of health care, which have been shifting over time. If we think of "learning" as changing the way we think about the world, this shift may be the most significant and consequential form of learning from cost containment.

Patterns in U.S. health care expenditures: The possibility of policy

The argument that cost control is impossible or in any case undesirable has its roots in two separate and to a considerable extent conflicting intellectual traditions, whose conflicts are nevertheless frequently misunderstood or deliberately glossed over in debate. These are the economic theory of consumer choice, and the clinical determination of medical need. We will deal with the former here: the latter will be deferred because it addresses only desirability and because it raises more complex issues.

The "consumer choice" view treats health care as just one more bundle in the general universe of commodities, from which fully informed and rational consumers each choose, subject to the constraint of limited resources, the set that gives them the greatest satisfaction. Health care cost escalation is then reinterpreted as indicating that care is a "luxury" good on which people choose to spend more as their incomes rise. One should therefore not be surprised or concerned that the share of national income spent on health care is rising; it is a natural consequence of growing wealth that people change the mix of commodities that they buy. This view is then buttressed by reference to international data, which show that there is indeed a significant positive correlation between a country's national income per capita and the share of that income devoted to health care.[2]

This view has always been rather unconvincing because it rests on the assumption that the utilization of health care *can* in fact be usefully analyzed in the framework of informed consumer choice, an assumption which has no very obvious a priori appeal and has been rich in challengers. Moreover, it is notorious that ill health is associated with poverty, not wealth, so if health care were treated as a luxury good, its distribution at any point in time would be perverse from a clinical standpoint.

It is also notable that cost escalation has been to a large extent driven by increases in the relative prices of health care services, a form of sector-specific inflation which has been continuous for forty years. Absent this, and the increase in actual utilization of health care which has been taking place would be a roughly constant share of U.S. national income. If, therefore, informed consumers are "choosing" to spend more on health care as their incomes rise, it is odd that they should be "choosing" higher prices. These quibbles can be circumvented by a suitable combination of conceptual redefinition, unsubstantiated references to supply elasticities, and confident assertion, but the analysis loses clarity and conviction.

For our purposes, however, the international comparisons are more interesting. The most recent comparative analysis of health care spending, by Poullier for the OECD (Organization for Economic Cooperation and Development) countries, confirms a general positive relationship between per capita income and percent spent on health care, with an income elasticity of + 1.3—that is, each 10 percent increase in income is associated, on average, with a 13 percent increase in health spending. But this is an average; at least as interesting is the pattern of variation around the average. The OECD study reports that countries at the top of the "league tables" with similar levels of per capita income—the U.S., Canada, Sweden, Norway, and Switzerland—spend remarkably different amounts on

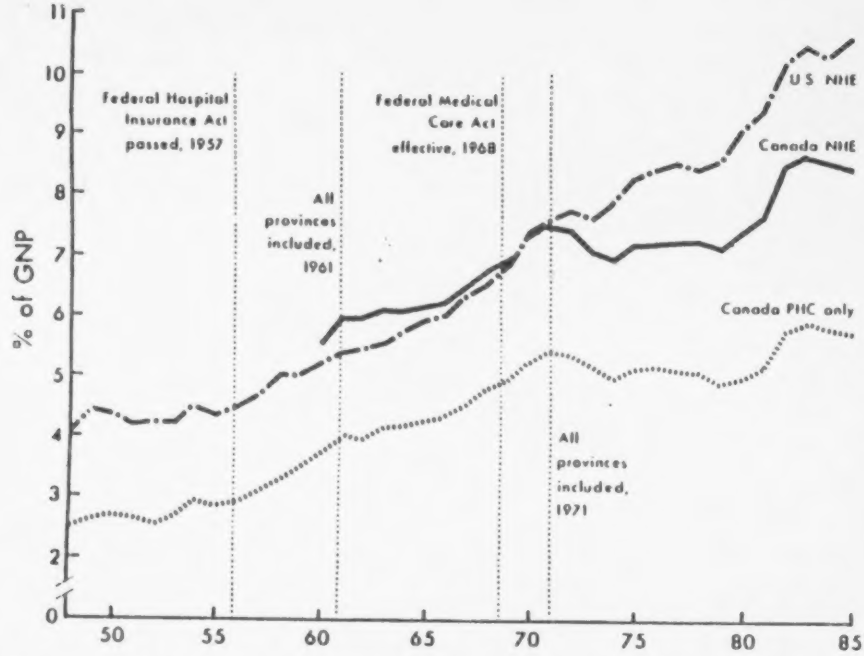

Figure 1. Health Expenditures as a Share of GNP, Canada and the U.S., 1948–85

health care. "Socialist" Sweden and the "capitalist" U.S. spent the largest shares, 9.6 percent and 10.8 percent of GDP respectively in 1983, but Canada and Switzerland spent 8.2 percent and 7.8 percent, and Norway was down at 6.9 percent.[3]

It is difficult for an external observer to assess the significance of the very large discrepancy between Norway and Sweden. But the Canada–U.S. divergence is well established. The message of the international comparisons is not that health cost escalation is a natural, unavoidable, and indeed desirable consequence of increasing income, but that there is a great deal of variety in national experience. High incomes and low, or at least lower, health spending are quite compatible. The U.S. has taken the high road, but others were available.

In particular the Canada–U.S. comparison, which has been frequently noted but even more frequently discounted or ignored in the U.S., shows that societies with very similar populations, environments, and cultures, and even very similar health care delivery (though not payment) systems can show very different records of cost control. Figures 1 and 2 display the historical trends in health care expenditure relative to GNP for Canada and the U.S. over the postwar period.[4] Abstracting from the recession-induced jump of 1982—a recession from which Canada has never entirely recovered—the Canadian ratio has been roughly stable since 1970. For hospital and physician care, the 1982 recession only brought the Canadian percentage back up to its 1970 level.

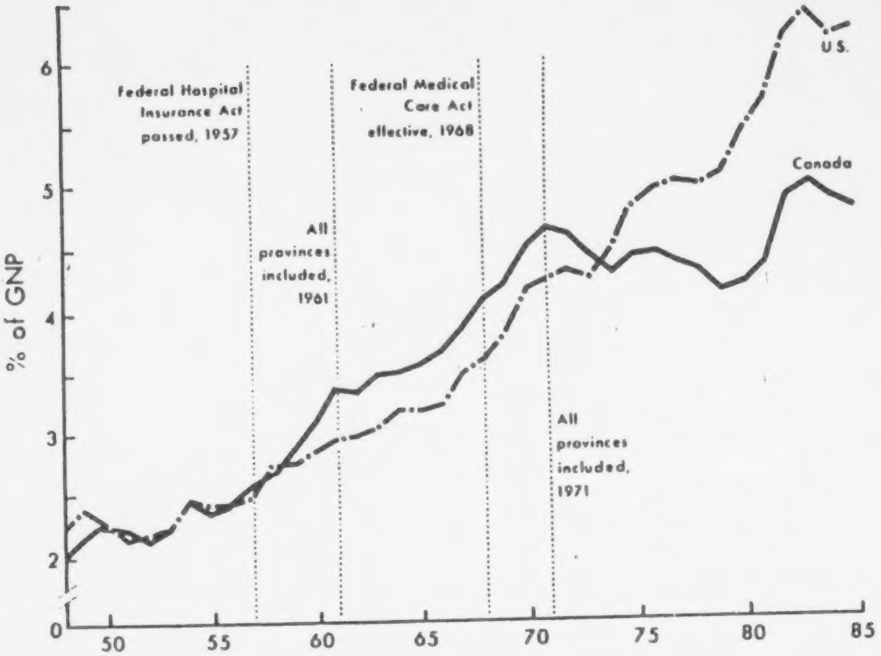

Figure 2. Hospitals and M.D. Expenditure as a Share of GNP, Canada and the U.S., 1948–85

Figures 1 and 2 declare, about as loudly and clearly as it is possible to do, that costs *can* be contained over a long period of time. They emphasize the critical role of the public insurance program in achieving this stability, because it is quite obvious that the cost patterns in the two countries only begin to diverge, and the Canadian to stabilize, after the completion of the universal, comprehensive public insurance programs at the end of the 1960s. Moreover the divergence between the two countries' experience only shows up in those sectors—hospital and physician services—which are covered by the Canadian public plans.[4]

But the lessons from past efforts at cost control are by no means all Canadian success and American failure. The most recent U.S. experience, and in particular the 1984 data, which triggered (somewhat prematurely) announcements of success in the struggle against rising health care costs, yield some important findings. Total health spending as a share of the U.S. GNP actually fell between 1983 and 1984 from 10.49 percent to 10.36 percent, although a strong general economy in 1984 contributed to this, and the ratio appears to have rebounded to a new peak of 10.63 percent in 1985. But the real action is in the hospital sector.

Spending on hospital care rose 6.1 percent between 1983 and 1984, but all of this was due to price increases.[5] Adjusted for increases in the prices of hospitals' services, total expenditure did not rise at all. But the population served increased by about 0.9 percent and its average age increased. Aging per se is currently contributing about 1 percent per annum to hospital utilization, ceteris paribus.[6]

So hospital expenditure per capita in constant dollars, adjusted for population age, actually *fell* by about 2 percent in one year.

This is in striking contrast to the previous record of continuous growth in real, per capita hospital spending. From 1965 to 1975, hospital spending per capita rose on average 4.3 percent per year, over and above the increases in hospital prices. From 1975 to 1983 it slowed to 3.0 percent per year, still about 2 percent above the estimated impact of population aging on utilization.[7] Then in one year the rate of growth of real spending swung down from 2 percent above to 2 percent below the growth of age-adjusted population.

The preliminary 1985 National Health Expenditure data do not report the change in the hospital price index, but the overall increase in hospital spending is 5.6 percent, down from 6.1 percent in 1984. The Consumer Price Index component "hospital and other medical services" for December 1985 over December 1984 is up 5.0 percent (compared with the All-Items Index at 3.8 percent),[8] suggesting that real expenditures per capita have fallen by another half a percent, and age-adjusted use by about 1.5 percent.

This shift in spending patterns is both unprecedented and massive. If the pre-1984 trends had continued, hospital spending would have been about $6.3 billion higher in 1984, and perhaps $10–12 billion higher in 1985. The U.S. would have reached 11 percent of GNP spent on health care. This did not happen, for reasons which are only partly understood.

The easy explanation is that the change in the U.S. Medicare reimbursement system, from cost reimbursement to prospective payment by admission, created incentives for shorter lengths of patient stay. The average length of stay in U.S. hospitals fell to 6.7 days in 1984. But total patient days in hospital dropped 8.6 percent, as a combination of a 3.7 percent drop in admissions and a 5.1 percent drop in lengths of stay, whereas prospective payment should if anything create incentives to *increase* admissions. Furthermore, since the population was both increasing and aging, and since these factors should have tended primarily to increase admissions (although elderly people also have longer stays), the fall in admissions on a per capita age-adjusted basis was well over 5 percent, or at least equal to the fall in lengths of stay.

Thus, the neat temporal conjunction of the change in the Medicare payment system (October 1983) with the massive and sudden shift in expenditure patterns in U.S. hospitals provides only part of the explanation. Something else was also going on; either other forces also bore down sharply in 1984, or they had been generating a cumulative pressure which finally triggered a response in that year, perhaps assisted by the influence of the prospective payment system (PPS).

The fact that utilization also fell among the under-65 population, very few of whom are covered by the U.S. Medicare system, emphasizes the inadequacy of the simple-minded reimbursement incentives story. But the generalization that "third parties have assumed a more active role in determining which services will be consumed and how many"[9] leaves open the obvious question: Why in

1984? Why did everything happen at once, when general, systemwide tendencies usually unfold over a number of years?

For our purposes, however, the critical observation is that *something happened*. A big shift in behavior occurred suddenly, which significantly reduced the rate of growth of a key expenditure component, and for the moment this shift is persisting. What we can learn from this U.S. experience, as from the international comparisons, is that cost patterns are not immutable, dictated by fundamental laws of nature or social behavior. If one finds the policy lever, the system responds. One may or may not fully understand the nature of the lever—as noted above, there is apparently a lot more going on besides PPS and DRGs—and we may not be sure if the response is good or bad, but the supertanker *can* be steered. Policy is possible.

Equally important, however, are the patterns which did *not* change after 1983. The changes in behavior were not only large, but localized, implying either tightly targeted incentives or very specific possibilities for response. The change in behavior is entirely located in hospital utilization, both in admission rates and in lengths of stay. The prices of hospital services rose, on average, by about 6 percent, or about 1.6 percent faster than the Consumer Price Index at 4.3 percent. This continues a long-established historical pattern of prices in the hospital sector rising more rapidly than in the general economy, whether the economywide inflation rate is high or low. Whatever the measures which induced the massive shift in hospital utilization patterns, they had no impact on relative price increases in that sector.

Expenditures on physician services were likewise wholly unaffected. Despite the continuing steady growth in physician supply, which outstrips the growth of population by about 2 percent per year, and the widespread commentary about increasing competition in the market for physician services, the U.S. Consumer Price Index component of "physician fees" rose by 7.0 percent in 1984, or 2.6 percent faster than the general increase in prices. In 1985 (December over December), fees rose 6.9 percent, or 3.0 percent faster than the CPI at 3.8 percent, and in the first half of 1986 they grew at a remarkable 9.2 percent annualized rate, while the increase in the CPI held at 0.4 percent.[10]

Physician fees have outpaced the general rate of inflation in the U.S. almost every year in the last forty,[11] but the long-run gain has been between 1 percent and 1.5 percent per year. Since 1980, however, the annual margin has widened significantly; from 1980 to 1982 physicians gained an average of 2.75 percent per year over the All-Items CPI. The 1984 and 1985 data continue this more rapid fee inflation, and the preliminary data for the first half of 1986, if they hold up, show a spectacular further surge. Whatever changes may have occurred in the provision and reimbursement of physician services in the last five years, they have as of 1986 had no detectable controlling effect on physician fees—quite the contrary.[12]

Of course, expenditures on physician fees depend not only on fee levels but also on rates of utilization. Conceivably a more competitive environment could yield either more careful "shopping" or biases in the measurement of fees actually received (discounting) such that reported utilization fell. But this too has not happened.

Constant dollar expenditure on physician services rose 3.0 percent in 1984, while a combination of population growth and aging (which has much less effect on physician use, about 0.33 percent per year per capita) would have accounted for about 1.25 percent to 1.33 percent. The 1985 increase, comparing a 9.8 percent increase in expenditures with a 6.9 percent increase (December over December) in fees, was about 2.7 percent. Per capita age-adjusted use is thus still rising steadily, in proportion (and by no means coincidentally) with the increase in physician supply. There is something of a long-term slowdown in the growth of utilization of physician services, from annual rates of over 4 percent in the late 1960s and early 1970s, but there is no dramatic shift in pattern after 1983, or anywhere else in the record.[13] If anything, it appears that a slight slowdown in the rate of increase in utilization per capita has been offset by an increase in the rate of escalation of (inflation-adjusted) fees, nothing more.

Nor is there much else of interest in the 1984 and 1985 data, with one dramatic exception. In general the shifts in shares of different components seem to be a consequence of the change in hospital utilization: if one item falls, the shares of the others have to rise as a result. In particular, after 1983 there is no sign of a rise in expenditures on nursing home care, which one might have expected to be offsetting some of the reductions in hospital use if patients were being transferred earlier and sicker. There is a long-term rise in the share of GNP going to nursing homes, but there is no significant change between 1983 and 1985. (The 1984 share is actually down slightly.)

The one other significant change after 1983 is in the costs of program administration and health insurance (overhead costs, or premiums less payouts). These shot up from $14.5 billion in 1983 to $19.1 billion in 1984, and again to $26.2 billion in 1985—or from 0.426 percent of GNP to 0.507 percent and 0.655 percent. Figure 3 shows the trend in this component over the last 25 years, with Canadian data for comparison, and emphasizes both the much greater overhead costs of operating a payment system with a diversity of funding sources and methods, and the long-term uptrend and recent acceleration in those costs. In 1960, when the U.S. and Canadian insurance systems had only begun to diverge (the Canadian universal hospital insurance plans were established in the late 1950s), the two countries spent similar amounts for this purpose. Now, the U.S. spends a share six times as great.

Looked at another way, if the U.S. had spent at the Canadian rate in 1985, the savings would be over half a percentage point of GNP, or nearly $22 billion—not much less than the entire cost of dentist services. About one quarter of the difference betwen Canada and the U.S. reported in Figure 1 is now the difference in the costs of running the payment system itself, as opposed to providing care. Indeed, if the share of GNP devoted to such costs had even remained constant at its 1983 level of 0.426 percent, total health outlays in 1985 would have been

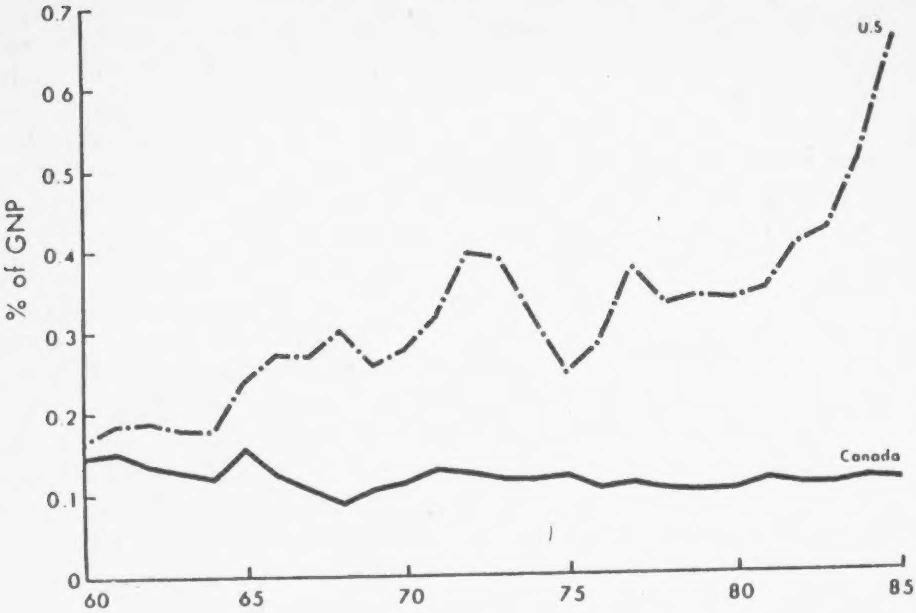

Figure 3. Costs of Insurance and Administration as a Share of GNP, Canada and the U.S., 1960–85

lower by just over $9 billion. This is not far off the rough estimate above of the "savings" from reduced hospital utilization.

Various explanations may be offered for the post-1983 increase, including short-term adjustments in the reserve position of insurers, or windfall gains in new markets which have not yet been shaken out by competition. It is tempting to hypothesize, however, that this increase represents at least in part the costs of increased administrative effort required to control hospital utilization - the costs of saving money. If in fact this pattern persists, it may be that the U.S. experience after 1983 represents merely a transfer of outlays and incomes from hospital patient care staff to managers and investors, with no net saving to payers. If so, the implications for cost-control strategies would be profound, as it is by no means clear in what sense this would be an improvement for patients or anyone else (except, of course, for managers and investors).

Comparisons with the Canadian experience: The dimensions of reference

The U.S. experience after 1983, with sudden and major shifts in two components of health expenditures and "business as usual" elsewhere, is in this precise targeting similar to the longer-term Canadian record. Figures 1 and 2 were referred to earlier to indicate that cost control was in fact possible in a society, economy, and health care system very similar to that of the U.S. But they also show that the shift from cost escalation to stability, at least in terms of share of GNP, took place quite rapidly. The Canadian trends break sharply at the beginning of the 1970s. Cost control was not a gradual process, in which expansionary pressures slowly weakened and/or restraints were progressively tightened. It *is* true that both institutions and perceptions of policy priorities have evolved over time. But the shift from escalation to control was associated with a decisive and quite specific break in the institutional environment: the introduction of public, universal, comprehensive, first-dollar medical insurance. In the same way the American experience, at least with respect to hospital expenditure, shifts discontinuously between 1983 and 1984.

Moreover, the post-1971 Canadian pattern is not one of general cost control. The large discrepancy between Canada and the U.S., which by the 1980s reached 2 percent of GNP, is almost entirely located in hospital and medical costs—the sectors which are reimbursed through the public and universal plans. There are some cross-border differences in other sectors—the U.S. spends much more on program administration and net insurance costs, as noted, and Canada spends more on nonhospital institutional care. But in total these other categories have moved more or less in parallel on both sides of the border. Within the hospital and medical sectors, moreover, it turns out that the discrepancy is almost entirely due to diverging trends in two factors, physician fees and "intensity of servicing" in hospitals.[14]

In Canada, physician fees rose much less rapidly than the general inflation rate in the early and mid-1970s, thus falling in real terms, while in the last decade they have more or less kept pace. In the U.S., as noted above, fees have consistently outrun inflation, and by an increasing amount in the 1980s. Meanwhile, the supply of physicians and the utilization of medical services per capita have increased steadily and at about the same rate in both countries. In neither country is there any sign of "saturation" or falling average workloads per physician (as measured by total expenditures adjusted for fee increases and divided by the supply of physicians) in response to increased supply. Nor has the difference in out-of-pocket costs (virtually zero in Canada, but about one-third of all physician bills and perhaps 60 percent of ambulatory bills in the U.S.) resulted in any difference in utilization trends.

In the hospital sector, again, the Canada–U.S. trends are roughly parallel with one exception. In both countries, hospital prices have for decades outrun general inflation rates. Utilization of services as measured by patient days and admissions first rose through the 1950s and 1960s, then peaked and began to drift down. But the key difference is in "intensity of servicing"—the cost per patient-day or per capita adjusted for price changes—which represents the volume of services provided/received during the period. This has risen much faster in the U.S. than in Canada, and is the dominant factor in explaining (in an accounting sense) the difference in hospital cost patterns.

The fact that the Canada–U.S. cost differential can be so specifically located in particular components of the total of health care costs is indicative of its dependence on particular institutional/policy differences. The divergent trends in physician fees demonstrate the differing effectiveness of countervailing power and of "market" forces, however competitive or otherwise these are perceived to be.

In Canada, uniform fee schedules are negotiated annually between the medical association of each province and the provincial reimbursement agency, and all medical practitioners in private fee-for-service practice are reimbursed by the province, not the patient, on this schedule. "Extra-billing" the patient above this schedule has been a contentious issue for years, but has never been large, and is now effectively nonexistent. The result of fee control has not been an offsetting surge of additional bills (although that pressure does exist, and there is much more to fee schedule negotiation than simply limiting increases), nor has it been an exodus of physicians or a drying up of recruitment. Rather, the result has simply been lower fees—and lower rates of cost escalation.

The hospital picture is more complex. Hospitals are reimbursed for their operating costs on an annually negotiated global budget, with separate grants for their approved capital expenditures. While U.S. hospitals, reimbursed (for a significant part of their case load) by the procedure at a rate covering both operating and capital costs, have (had) every incentive to encourage high levels of procedural intensity, Canadian hospitals do not, at the margin, earn more by doing more. The result, as noted above, is that in the U.S. hospital system the amount of servicing, the number of person-hours and procedures per patient-day, has risen significantly faster than in Canada.

But there is another dimension to this contrast. Average lengths of stay in acute-care hospitals are substantially longer in Canada, and have not been falling as in the U.S. They currently average about 11 days, compared to the 6.7 reported for the U.S. in 1984. An increasing proportion of patient-days are accounted for by people staying for 60 days or more, and physicians speak of "bed blockers" who tie up capacity and prevent them from admitting acute patients for whom they could provide (and bill for) services.[15]

The U.S. has found a way to bribe or browbeat hospitals into discharging patients earlier, or not letting them in at all, with corresponding sharp drops in occupancy rates, bed closures, and perhaps hospital bankruptcies. In Canada, beds are "withdrawn from service" by being occupied by de facto long-term patients who are less intensively serviced on a per day basis. The Canadian approach maintains the jobs of nurses and provides long-term care; the U.S. discharges the nurses and hires managers and technicians, and emphasizes machines and procedures. In both systems, the availability of acute-care beds is reduced, but the style of care, and the mix of people earning incomes from providing it, is different.

The implications of these contrasting experiences in cost control are profound. The shift in U.S. hospital utilization patterns after 1983 is clearly traceable in part (and perhaps in whole) to changes in administrative procedures. These changed the incentives faced by hospitals, to be sure, and thereby changed their behavior. But incentives are not the exclusive property of "competitive" or "market" mechanisms. All administrative processes embody incentives as well. The introduction of the prospective payment system was a change in the administrative environment, a regulatory change in a broad sense, and it worked.

In the case of physician services, on the other hand, there has been no major change in the administrative environment. There has been much rhetoric about a more competitive market environment, and certainly the supply of physicians has risen rapidly and is continuing to rise, but there is no sign, as yet, that such increasing competition either in the conventional fee-for-service system or through the multiplicity of alternative purchasing arrangements such as PPOs, HMOs, and IPAs has had any impact at all on the long-term historical trends of increased utilization and sector-specific inflation. And the latter, at the moment, is accelerating.

Such inflation *can* be controlled—the Canadian experience is conclusive—but it has been done through fee bargaining and bilateral monopoly, backed up by a regulatory framework which does not permit physicians to have direct access to the patient's wallet. It may be that "the marketplace" in some form can also impose control; perhaps the present U.S. ferment needs more time or further fine tuning.[16] But such a view can at present only be a statement of faith in a result no one has ever seen in the U.S. or anywhere else.

The hospital sector experience is more ambiguous. As noted above, the timing of the post-1983 shift is consistent with a PPS effect, but the changes among classes of patients which it does not affect, and particularly the drop in admissions, emphasize that a broader shift is underway. This may reflect the effects of a number of other forms of administrative intervention, by both public and private insurers, galvanized by the shift to the PPS. But one might also argue that it is in part at least a response to the development of competitive forms of delivery. Perhaps the rapid spread of HMOs has finally resulted in an impact on overall utilization rates.

There seem to be two weaknesses to this line of argument. First, as noted above, it is difficult to see why such a long-term and gradual movement as the spread of HMOs should be reflected in a sudden and large trend break. One could offer the explanation of critical mass, except that the market penetration of HMOs varies widely across the U.S., so that different areas should "go critical" at different times, thus "smearing" the aggregate response. Second, recent case studies, reported in this journal, have shown that in those regions with the greatest market penetration by HMOs—Minneapolis, Hawaii, and Rochester, NY—there has been no detectable impact on hospital cost trends in the region as a whole.[17] Again one may argue that more mass is needed (though not so long ago, advocates were arguing that a small but aggressive entrant could force competitive behavior on an entire market). But if the regions where HMOs are strongest have yet to show a response, it is hard to argue that the national shift between 1983 and 1984 is driven by HMOs. Again one is brought back to the "regulatory," or at least the administrative, explanation.

But if the American cost experience confirms the potential effectiveness of administrative mechanisms for cost containment, and thus far fails to support the market approach, then it also has powerful implications for the continuing debates over the role of the consumer in the cost escalation process—implications which are reinforced by the Canadian comparison.

Many U.S. observers, particularly economists, have long maintained that health care cost escalation is at root the result of the behavior of *patients*—who "demand" increasing amounts of services and thereby drive up prices as well as utilization, or at least do not "shop" carefully enough to hold down prices—backed up by excessively comprehensive insurance coverage which relieves them of the financial consequences of their behavior. This coverage is in turn alleged to be the result of misguided government policy, which both supplies overly generous coverage to part of the population, and subsidizes it (through the deductibility of employer-paid premiums) for much of the rest.

The strength of this conviction has always seemed mysterious to external observers, who note that the U.S. has long had a combination of the world's highest and most intractable health costs, and the highest proportion (among developed nations) of expenditures funded by direct charges. But the interesting feature of the post-1983 break in hospital use is that nothing at all happened to the out-of-pocket costs of consumers. In 1983, hospital patients paid 8.6 percent of their hospital costs as direct charges; in 1984 they paid 8.7 percent. Yet patient-day utilization fell by 8.6 percent, or about 10 percent on an age-adjusted per capita basis, in one year. In 1985, the preliminary data report that direct charges did rise a bit, to 9.4 percent of the total, but it is hard to see why a utilization response should *precede* a price increase.

In fact, the share of government in U.S. health care spending has been remarkably stable over time. From 1950 to 1965, all governments in the U.S. accounted for just over one-fifth of health spending. Medicare and Medicaid pushed this up to about one-third in the mid-1960s, and further benefit expansions in the early 1970s increased the share to just under 40 percent, but it has held steady at that level for over a decade. U.S. governments have certainly participated in funding the cost escalation, but they have not led it. Neither the acceleration in physician fees in the 1980s nor the contraction in hospital use after 1983 bear any obvious relation to any shift in either the level of public funding or the extent of patient direct payment.

The Canadian experience, moreover, recasts the debate over the role of the consumer in a very different light. The combination of cost control with universal comprehensive coverage is not merely coincidental, but causal. Universal coverage is a necessary condition for government to engage in bilateral negotiations, to exercise the leverage whereby cost escalation can be controlled. So long as there are multiple funding sources, whether private insurance or direct charges to patients, providers can always find ways to expand their billings.

Indeed this view is strongly supported by physician organizations in Canada, who argue for the reintroduction both of the right to bill patients directly and of private insurance, precisely *because* they believe that this will increase costs. They argue that the current system is "underfunded," that an increase in expenditures (and in their incomes) is essential, and that universality and comprehensiveness are the features which lead to underfunding—the coin whose obverse is cost control.[18]

The U.S. arguments for direct charges and against universality are thus turned on their heads, both by supporters of the Canadian system and by opponents of it. Or rather, the experience with cost control in both countries suggests that the U.S. arguments are already standing on their heads; the Canadian debate puts them on a solid footing again.

The costs of cost control: Prescriptions painful to whom?

The two-sided coin that cost containment is also "underfunding" brings us back to some unfinished business. We noted at the outset that while analyses rooted in the economic theory of informed, rational consumer behavior raised questions as to the possibility and desirability of cost control, those rooted in the clinical assessment of medical need addressed more specifically its desirability. In the Canadian context, spokesmen for providers recognize only too well the fact, not merely the possibility, of cost control through regulatory mechanisms. Their claim of "underfunding" reflects a judgment, or at least a claim, that this is bad policy, and that continued cost escalation through a combination of public and (to a greater extent) private funding would be preferable.

There are, however, two parts to the "underfunding" case which must be carefully distinguished. As a matter of simple accounting definition, the total expenditures on health care (or anything else) in any society must be identically equal to the incomes earned by all those who participate in its provision. Cost control means income control, or it does not mean anything at all. In particular, expenditures on physician services make up the gross incomes or receipts of physicians; thus when the Canadian provinces limit the escalation of physician fees, the action has direct repercussions on the incomes of physicians. On the other hand, the continuing escalation of fees in the U.S. represents a continuing transfer of wealth from the rest of society to physicians. To a large extent, therefore, the claim of "underfunding" is simply a statement by Canadian physicians that they would like higher incomes.

Such a statement is no doubt true, but it is neither unique nor particularly compelling. So would I. To generalize the argument, it is necessary to show that the wider society, and patients in particular, have an interest in increased expenditure. Efforts to show that if physicians are not paid more they will all emigrate or leave the profession, or that enrollment in medical schools will fall, have been singularly unsuccessful due to the intractability of the data. All that remains is an exiguous claim that underpaid physicians will feel unappreciated, that their morale will suffer, and that quality of care will deteriorate. But no suggestion has ever come forward as to how this claim might be tested.

The fairly obvious lesson is that there will always be an automatic constituency *against* cost control which will become more active as and if successful control measures are developed, and will target its attacks on the measures most likely to be effective. But support of cost inflation per se, no matter how sincere, is a poor basis for building a coalition, so the expressed policy positions and prescriptions of providers are generally more subtle and require a certain amount of "unpackaging" to establish their net effects.

In the case of hospital services, however, the issue is less clear. It is important not to fall into the trap of assuming that whatever measures the providers of care, or their official and unofficial spokesmen, attack (or support) are always the most (or least) likely to control cost escalation. The rule is generally but not universally reliable. At the core of the issue is the question of whether constraints on cost escalation lead to a reduction in utilization (in the number, complexity, or sophistication of interventions) such that patients are denied care which would have been effective in improving their health status. Or more accurately, since the context is a dynamic one in which costs are in fact rising, the question is whether growth in hospital costs (in Canada) is too slow to keep pace with the growth in the scope of effective interventions, such that patients are being denied opportunities for benefit. In the clinical context, "underfunding" is equivalent to "unmet needs."

It is at this point that the Canadian debate joins the set of arguments in the U.S. which can be summarized as "painful prescriptions" and which display considerable ambiguity on the issue of cost control.[19] These arguments, or scenarios, start from the assumption that "needs" for care are without limit, which may well be true, depending on how one defines needs. For practical purposes, of course, all health care systems embody mechanisms for determining which needs are worth meeting, as there are no infinitely large health care systems.

But whatever mechanisms are employed, the ever-expanding reach of medical technology is constantly redefining needs by increasing the numbers and types of potentially effective interventions—and their costs. Thus a static health care system will confront an ever-increasing amount of unmet need as the range of potentially effective interventions left undone expands. Moreover the aging of the population will for the foreseeable future continue to increase the proportion of the population in vulnerable age groups, those with deteriorating health and accumulating needs for which medical interventions of all types are both increasingly effective and increasingly costly.

The essential ambiguity of the argument emerges from its conflicting long-run and short-run applications. If we accept the assumptions, the "painful prescription" asserts that we are caught in a cruel dilemma: either we must spend an ever-increasing share of our national income on health care, or we must accept a growing burden of unmet need in the sense of increasing numbers of effective interventions which we cannot afford to, or choose not to, provide. Nor can any increases in the efficiency with which health care is provided, or reductions in the prices or incomes of providers, or care in weeding out the ineffective from the effective interventions do more than postpone the inevitable. Eventually we must "ration" access to lifesaving and life-improving care because our resources simply cannot expand as fast as our needs.

Of course, like most economic arguments, this one is true, or at least consistent, if we accept its assumptions and wait long enough for the "long run" to arrive. But the assumptions are in fact highly questionable; as noted above, the impact of population aging per se on health care costs is in fact much lower than commonly imagined—about 1 percent per capita per year in aggregate, or well within the capacity of normal rates of growth of the general economy—and this has been demonstrated by every analyst who has examined the question. What is really happening is that the intensity of servicing (the number and cost of interventions) is rising relatively rapidly among the elderly themselves; the age-use profiles are shifting upwards and twisting.[20]

So the "inevitability of rationing" boils down to an assumption about the future of medical technology, in particular that it will continue to generate predominantly "half-way" technologies of great cost and limited effect rather than decisive breakthroughs which lower the costs of providing care. It is at least arguable that the direction of technological progress depends on the economic payoff to different types of innovation, and that as the U.S. moves away from cost reimbursement, the demand for innovation will shift toward more cost-saving technologies. There is no shortage of potential candidates; if progress in organ transplantation threatens to break the bank, that in genetic engineering holds out economic as well as clinical hope.

But these are long-run issues. The short-run implications of the "painful prescription" view of the world are distincly inimical to cost control. By focusing on the assumed inevitable long-run, it encourages the foreshortening of the policy horizon and distracts from or distorts the possibilities in the present. There is today, as the U.S.–Canada comparisons make clear, a great deal of scope for cost control, without an inevitable cost in terms of "unmet need." For that matter the Norwegian numbers suggest, and Canadian experience makes clear, that Canada is by no means the last word in efficiency either. The extent of unevaluated, or known ineffective, care, delivered in ways known to be unnecessarily costly by people for whom less costly substitutes have long been identified, is impossible to determine with precision, but could easily run between a quarter and a third of current U.S. outlays. That is enough of a challenge for one generation; who knows what the next generation's technology may bring?

It is not surprising, however, that the providers of care (whose incomes are drawn from current outlays) would prefer not to discuss these issues, but would rather focus our attention on the costs in "unmet need" of cost control. The focus on a hypothetical long run serves this purpose admirably by assuring us that current efforts to improve efficiency and effectiveness can only defer the inevitable, and thus are by implication unimportant, as well as by emphasizing the painful trade-off between expenditure escalation and unmet need, a trade-off which is either here or at least just around the corner.

But the possibility of cost control through improved efficiency and effectiveness of care, such that the growth of the health care sector can be reined in to that of the rest of the economy, is no guarantee of its attainment. It must be conceded that, in the hospital sector at least, the record of cost containment thus far will support a certain degree of unease.

The average length of stay in U.S. hospitals cannot fall without limit. However much "fat" is believed to be in the system in the form of unnecessary utilization, there must be some point at which increasingly early discharges begin to put the health of patients at risk. Some will claim that this has already happened; others point to a lack of any conclusive evidence. But stable costs achieved through falling average lengths of stay is not itself a stable situation. It looks rather more like the temporary respite from escalation predicted in the "painful prescription" scenario.

The downward trend in admission rates is somewhat more encouraging. There is probably a good deal more scope for both reductions and consequent savings through avoiding unnecessary admissions in the first place than there is through sending patients home earlier. The large and long-emphasized differences between hospital utilization rates in HMOs and those in comparable fee-for-service practice indicate the possibility of reductions of 20 to 40 percent in utilization rates without harm to patients, although some cracks may be appearing in that conventional wisdom.

But in the end the savings from better management of utilization are still bounded, even if large. At some point the escalation of hospital prices must be brought under control. In principle, the prospective payment system embodies incentives for hospitals to contain price increases as well as to shorten the lengths of patient stays. Competitive pressures bearing on HMOs should have similar effects, but so far this has not been observed. The successes of both HMOs and the administrative pressures applied through and alongside PPS after 1983 have come through reductions in utilization in the context of continuing escalation in prices/unit costs.

Moreover, both have run into trouble in translating sectoral savings into overall savings. As noted above, the post-1983 savings in hospital costs have been almost matched by extraordinary increases in the costs of program administration and overhead costs of insurance, suggesting that they may have been dissipated by the processes needed for their achievement. Meanwhile, the U.S. regions most deeply penetrated by HMOs do not show any resulting change in their overall cost behavior—for the region as a whole it is business as usual. And in the physician services sector, neither competitive forces nor administrative mechanisms have yet had any detectable impact. In the light of this experience, claims as to the inevitability of escalation and the temporary nature of any relief through either better management or more competition become understandable.

They do not, of course, become valid. The Canadian record of long-run cost stability is still there to be confronted. The important thing to note is that this stability has been achieved not by indirect means, by trying to create a more competitive environment for physicians or by paying hospitals in such a way as to encourage them to cut costs. Rather it has been the result of direct controls, such as face-to-face fee bargaining between physicians' representatives and the payers for care, and global budgeting for hospitals. Total spending is not completely locked in, as the volume of servicing by physicians is an uncontrolled variable, and hospitals can occasionally work their way around the "globe." But the scope for manipulating billing patterns is surprisingly limited when the structure of the fee schedule is itself negotiated. The control does not work with pinpoint precision, but it works.

Or does it? Do we know for sure that the consequence of controls is *not* unmet needs—potentially effective interventions foregone because the health care system is being starved for funds, or more accurately, because it has not expanded to keep pace with the growing capabilities of technology and needs of patients? No. The restraint on hospital expansion in Canada has been no more backed by careful evaluation and hard evidence than has the unrestrained expansion in the U.S. The difference is rather between an approach of "when in doubt, don't" and one of "when in doubt, do."

New and expensive technologies thus proliferate much less rapidly in Canada than has historically been the case in the U.S. (Things may be different under PPS.) In the case of innovations which turn out to be significant advances, some patients may suffer from this delay. On the other hand, it is notorious that new interventions in the U.S. have tended to proliferate too rapidly, far in advance of their evaluation, so that patients are exposed to unproven technologies which may turn out be of little value or even harmful in some or all of their applications (extracranial/intracranial bypass surgery is a recent case in point).[21]

The continued pressure applied to hospital costs by Canadian governments rests not on a firm foundation of clinical epidemiology or of evaluative studies demonstrating which interventions are effective and which are not, but rather on a much more impressionistic sense that when resources are limited, clinicians will make the appropriate decisions about which interventions to carry out and which to forego. Constant provider complaints and cries for more are to be expected, but if a real problem develops, the tone of the cry will change and something can be done about it.

Further, it is implicitly assumed that there is enough slack in the system as a whole so that new technologies can be funded at an appropriate level out of efficiencies in other areas, helped along by net expansion at about the same rate as the general economy. Overall restraint is consistent with reallocation of priorities and some net growth, and therefore does not result in increasing levels of unmet need as technology progresses. In any case, while the system remains overwhelmingly popular politically and relatively stable financially, no evidence has emerged that the health of patients, as opposed to the ambitions of providers, is suffering from the restraint.

Of course this may all be true, and the Canadian funding system may be as good a compromise among clinical, political, and economic forces as one can expect. But it would be nice to be sure that if constraints on expenditure growth *did* start to threaten the effectiveness of the system, we would in fact know about it. Just because providers cry "Wolf!" as a matter of course is no guarantee that there are no wolves out there or that none will ever arrive. On the other side of the coin, just because the escalation of costs has been controlled in aggregate, we have no warrant to assume that there are not still a number of activities going on which are highly questionable as to effectiveness or efficiency. Perhaps we could do a lot better.

The system of global constraint through political processes creates no inherent demand, by providers or payers, for sound evaluation of the effectiveness of current practices. Neither side in the dialogue has thus far shown any great interest in taking the risks implicit in a serious scientific evaluation of either current practices or new proposals. Providers might find themselves trying to justify current practices which turn out to be wholly or largely ineffective; payers might discover that they were refusing to fund the expansion of a proven beneficial innovation. From time to time it may be advantageous for either advocates or opponents of particular clinical activities to base their positions on evaluative research; but in general rhetorical arguments over global "less or more"—underfunding or cost explosion--are safer and less intellectually demanding.

On the other hand, it is not obvious that the competitive marketplace has generated any demand for evaluative research either, or that it will in the future. If the marketing process is to elicit information, there must be sophisticated buyers who can recognize and demand reliable information. The market share of providers must somehow be linked to the energy with which they seek out and offer therapeutically effective interventions and remove ineffective or harmful ones from their product lines.

But this sophisticated buyer is not the individual patient—that has never been and never will be true outside the mind and models of the odd economic theorist. Can the individual hope to be better informed as a buyer of insurance contracts, deciding which future therapeutic option packages are worth paying for? Will the paternalistic corporation as employer, or the union, have an incentive to demand effectiveness information on the basis of which to make choices for employees/members, and succeed in receiving such data? Perhaps, but this has yet to be shown. The art of marketing has rarely had much acquaintance with the generation and dissemination of scientific information.

A competitive marketplace displays a great deal more product innovation and change than a bureaucratically constrained system, for fairly obvious reasons. But there is no basis for any a priori assumption that in a highly "information-impacted" environment the result will be a more effective, much less a more cost-effective, health care system. So far, the U.S.–Canadian comparison suggests the reverse.

The shifting burden of proof: Changes in the intellectual background

It is helpful to back away from the most recent collection of statistical entrails, however, in order to identify a more important trend. We suggested at the beginning of this paper that perhaps the most significant lessons which had been learned from two decades of attempts at the control of health care costs across all developed countries took the form of a shift in the attitudes and background assumptions, the policy-relevant priors, of those whose decisions shape health policy. There are several specific examples.

A recent study by workers at the Rand Corporation has shown large variations across regions in the frequency with which beneficiaries of the U.S. Medicare system utilize different medical and surgical services, variations which were not traceable to measured characteristics of the populations served.[22] This is not news; such variations have been demonstrated by a number of different researchers for many different populations over at least twenty years. Studies by Bunker, Vayda, Wennberg, and Roos and Roos come immediately to mind, and there are others. But the Rand study is one more body of corroborative evidence, and it is also a large one.

The authors insert the customary caveats for interpretation. One cannot assume that high rates of servicing mean overservicing, because from the data alone it is equally possible that people in low-use regions are underserviced. For that matter the populations may differ in ways which the aggregate data do not reflect, but which clinicians on the spot recognize and respond to. The addition in the most recent paper is the authors' plea to their clinical colleagues to take these discrepancies seriously, not just because they may reflect opportunities to improve the quality of clinical practice, but because nonclinicians increasingly regard such variations as prima facie evidence of overservicing.

Twenty years ago, providers of care could ignore or dismiss such findings on the grounds that they did not constitute proof of inappropriate clinical behavior. Implicitly, clinical behavior was its own justification: if the doctor did it, it must have been right. Now, many dollars and years later, the burden of proof has shifted. A recent U.S. survey of private sector approaches to cost containment states baldly: "there is no medical excuse for the variation in care which now exists."[23] If physicians cannot find ways either to justify or to correct these variations, others will intervene.

They are beginning to do so, although with what success or side effects it is too early to say. The same source describes a number of initiatives by private payers to influence patterns of medical practice. For our purposes, however, the interesting fact is that the linkage from observed variation to inappropriate servicing is little more secure than it was twenty years ago. Our "scientific" knowledge on this point has increased somewhat, with additional demonstrations of widespread and large variations in clinical practice. For particular procedures, which are well documented and have well-defined indications, the weight of evidence certainly suggests some inappropriate servicing. But this is not proof of a general linkage. Yet the underlying default assumptions have now been reversed, in response primarily to the unrelenting pressure of cost escalation.

Physician manpower policy reflects the same reversal. The number of physicians per capita has been rising in both Canada and the U.S. since about 1950, roughly doubling over that time, and on present projections of population and physician supply will go on rising into the next century at least. Twenty years ago, this trend was viewed as a healthy response to a physician "shortage"; today it feeds a growing "surplus." Yet now as then, it is a standard debating trick of defenders of the status quo to issue the challenge, "Define the optimum level." The implication that if one cannot define the optimum, one cannot identify a surplus (or shortage) and therefore that present policies should be maintained is of course a glaring non sequitur. But it illustrates an important point.

With very few exceptions, attempts to define optimum levels of physician supply reduce, after a certain amount of number juggling of greater or lesser sophistication, to an assumption that current levels of utilization are appropriate, or at least not too high. Certain regions or specialties may be undersupplied, as evidenced by observed differentials in capacity or utilization. But as in the interregional variations case, clinical behavior is implicitly its own justification. With such a basis, as numerous critics have pointed out, surpluses are ruled out a priori.[24]

Over time, one finds that the optimum level posited by successive manpower studies rises more or less in proportion with the supply of physicians, because utilization rises along with physician supply. The planning exercise does not disturb the status quo; rather it provides a comfortable justification that all is well, and that whatever is, is right.[25]

In the U.S., this position is buttressed by "economic" arguments from those who still find the economic theory of the perfectly competitive marketplace a plausible way of thinking about medical care. In this world the correlation between supply and use is not causal (in the sense of additional physicians either generating or enabling additional use) but accidental, the result of parallel trends. Some can still repeat with straight faces the textbook homily that the price of physician services is the appropriate indicator of surplus or shortage. Using this argument there is still a shortage, since physician fees in the U.S. are still rising in real terms, and the actual numbers are irrelevant. Indeed, on the basis of the preliminary data above for the first half of 1986, the shortage must be becoming more acute.

In the real world, however, Doctor Pangloss receives less respect. It is now commonplace among Canadian ministers of health, for example, that each additional physician entering practice costs the taxpayers an additional $400,000 or $500,000 or some such amount, depending on the place and year. The strong correlation, across time and place, between physician supply and utilization is taken for granted as causal by those who pay for services. The easy steps to limit supply—cutting back on immigration—were taken as long ago as 1975, and now governments are finally raising courage enough to cut back on training places.

For immediate effect, however, one province (British Columbia) has placed limits on the numbers of new physicians permitted to bill the public insurance plan in regions designated as "over-doctored"—a measure whose constitutionality is still in the process of being determined. If it is upheld, it will give the provincial government direct and immediate control over what it perceives to be a major component of its costs. If other provinces follow suit, new entrants may find practice opportunities severely curtailed throughout Canada.

In the U.S., by contrast, the physician surplus is being interpreted by many as an opportunity, not a threat. Alternatives to fee-for-service practice now have much less difficulty in recruiting physicians, and the diversity of forms of delivery is growing rapidly. As a result, the residual traditional fee-for-service market is becoming much more crowded more rapidly than the overall national picture indicates. Tarlov projects that by the year 2000 the average population per physician in the U.S. may be 429, but that outside the prepaid group practice sector it will be down to 310. The overall average in 1978 was 585.[26]

Such projections suggest that the pressures of competition on U.S. physicians have hardly begun to be felt. If so, this tends to support the position of the advocates of competition that the rock-solid stability of the long-run trends in physician fees, utilization, and costs is nearing its end. When twice as many physicians are trying to make a living from the same number of patients, something will break. Exactly *what* will break, however, and who will gain or lose as a result, is much less clear than simple-minded competitive theory would predict.[27]

Whether one views the surplus as threat or opportunity, the now-dominant perception is that there is now or will soon be a surplus. Yet the nagging question of "What then is the optimum?" has no better answer than it ever did. The "market" never saturates; even at 300 people per physician Israel's doctors remain busy. The North American ratio has just dipped below 500; there is still some distance to go. And a recent report of the Ontario Council of Health has shown that it is still possible to generate estimates of a physician "shortage" by the old tried and false methods.[28] Manpower needs are no better rooted in epidemiological data than they ever were, to say nothing of the extensive data on optimal manpower mixes which have been accumulated but ignored.[29]

The critical factor is that nearly forty years of growth in physician supply have gone by, accompanied in the U.S. by steady rises in costs and the consistent failure of all efforts at control. In Canada control has been established over fee escalation at least, but the political costs are high and may be rising. The trends in physician supply, and their cost implications, were clearly visible more than ten years ago. But once again, the general shift in perceptions followed after, and from, the experience of cost control: as Pogo said, "Man never reads the writing on the wall until his back is against it."

Yet a third area in which the data have not changed but the policy response has shifted is the HMO movement. The observation that capitated group practices are less expensive than comparable fee-for-service practice, and in particular that they make substantially less use of hospital care for their patients, is of very long standing; detailed empirical comparisons date from the 1950s. The standard responses have been to cast doubt on the comparability of the patient bases served or on the therapeutic outcomes—another instance of the "burden of proof" problem. The evidence has accumulated steadily over at least thirty years, yet a major review of the HMO experience in 1981 reported that it was still unclear exactly why HMOs were less expensive.[30]

By the 1980s, however, the background assumptions have changed. Everybody knows that HMOs are more efficient; the burden of proof rests squarely on anyone who would argue otherwise. Interesting questions about capitation still remain. There is room for a large amount of detailed work on the measurement of therapeutic outcomes, to deal with the question central to the whole process of health care delivery: How do utilization patterns link to outcomes? What is worth doing? But at the aggregate level, two obvious issues stand out. The first has been referred to above: if HMOs are less costly than fee-for-service practice, why is there as yet no evidence that their growth has lowered the growth of overall health costs in the regions where they are best established? The second issue arises from their changing sponsorship.

Virtually all the accumulated evidence on the comparative performance of HMOs has been derived from their historically dominant form, the not-for-profit prepaid group practice. This form established itself in American medicine in the 1940s and 1950s against intense opposition, but until very recently has been a small and geographically localized institution with a slowly-growing market share. The explosive growth at the end of the 1970s and early 1980s has coincided with the entry of for-profit HMOs into the market, demonstrating the truth of the argument that for-profit competitive institutions are more dynamic.

But little or nothing is known about the performance, in terms of costs and effectiveness, of for-profit HMOs competing aggressively for market share in a highly competitive environment. All the previous research studied not-for-profit institutions, which were motivated by an altenative view of how medicine should be practiced (clinical and social objectives), struggling to survive in a hostile environment which was constantly looking for evidence of inadequate quality of care and would be provoked by overly aggressive expansion to retaliate through professional, not market, channels.

May one justifiably cheer on the new organizations, on the basis of the evidence from the old? A priori, one might expect performance of for-profit HMOs to be different. Professional hostility and competitive markets both impose powerful incentives, but to different forms of behavior. For-profit HMOs may be quite different from their not-for-profit forerunners. The fact is, however, that at this point we do not really know. Twenty years ago this ignorance would have counted strongly against for-profit HMOs; now it seems not to enter into the discussion. The pressures on U.S. business and government to contain costs have again reversed the burden of proof—a form of organization which promises savings does not have to justify itself on other grounds. It is the critics, now, whose case is all to make.

Of course, the shift in attitudes towards HMOs and similar alternative organizations is taking place within a broader shift in the assumptions about the appropriate form of organization for health care delivery—i.e., the balance of for-profit and not-for-profit (or not-only-for-profit) firms. For most of this century, there has been a consensus in at least the industrialized countries of the world that the delivery of health care was special, for a variety of reasons, and that the organizations providing it directly to patients should be motivated by considerations other than profit maximization. The supporting industries—drug and equipment manufacturing, for example—might be left to the for-profit sector, but hospitals in particular should be not-for-profit. The position of the physician was left in comfortable ambiguity, since the self-employed physician clearly receives the profits from the practice as an economic enterprise. Implicitly, the assumption was that physicians might receive profits and even be motivated by them, but that effects that were potentially harmful to patients would be mitigated by physicians' simultaneous pursuit of other and more "professional" objectives, backed up by peer group sanctions.

This view was never universal; in the U.S. a residual for-profit hospital sector has always persisted. But in the mid-1960s it seemed to be disappearing. In Canada, the much smaller and less firmly rooted for-profit sector *did* disappear. Twenty years later, however, the U.S. for-profit sector is not only alive and well, but growing rapidly. It is generally regarded as the wave of the future by supporters and opponents alike. The question now may be whether the *not-for-profit* sector will disappear.

The rhetoric of the marketplace has replaced that of the clinic; for-profit organizations are lean and efficient, flexible and responsive to consumer wants, and technically and administratively innovative. Concern that they might cut corners on quality, exploit the ignorance of patients, and "skim off the cream" of patients able to pay their own bills for relatively straightforward and profitable procedures are dismissed as self-serving pleas by inefficient organizations whose participants have been extracting above-market incomes (in cash or kind) under the cover of altruistic, "nonprofit" motives.

But again, what of the evidence? *Are* for-profit hospitals more efficient, in the sense of providing as or more effective care at lower cost? The question is, as always, complex, and the evidence is both mixed and remarkably scanty. In the hospital sector, however, such evidence as there is indicates the contrary. It appears that for-profit hospitals are *more* costly and spend *more* on management, administration, and marketing and less on patient care. Indeed, in an imperfect market they behave just as a priori economic theory would suggest, promoting the utilization of and raising the mark-ups on those services about which patients are least able to make independent decisions.[31]

The empirical evidence is, of course, contentious. That can be taken for granted both because the research process in a complex world is inevitably rough-edged, and because the associated large political and economic interests and ideological preconceptions enter into research methodology as well as into interpretation and reporting.[32] But the interesting shift is that analyses showing for-profit organizations to be *less* efficient—which in the hospital sector at least seem to have the better of the empirical argument[33]—are now subjected to the most searching criticism, and required to bear the burden of proof.

Twenty years ago, everybody knew that for-profit motivation was a menace to the health of patients and the finances of payers. Evidence to the contrary, if it received a hearing at all, could expect to be dismissed as failing standards of proof which could in turn be set high enough to ensure the desired outcome. Now that the shoe is on the other foot, serious concerns about the cost-effectiveness of for-profit institutions can be ignored, or dismissed by appeal to trivial nit-picking to undermine the empirical evidence.

Of course, part of the explanation is a more general change in the zeitgeist, in public attitudes toward the state and the marketplace. But it appears that to a large extent the transformation in the U.S. in particular is the outcome of twenty years of failed cost control. Just as victims of cancer, when the conventional treatments offer no hope, turn to lactrile and other nostrums, so the U.S. has turned to "free enterprise," competition, and the profit motive—rhetorical symbols which give great comfort (as well as substantial profit opportunities)—to solve an apparently intractable problem. The belief in efficacy stems not from the evidence, which is not there, nor from the a priori argument, which as always points both ways, but from the acutely felt need for a solution.

No other nation has gone this route, nor is likely to, partly because the symbolism of "free enteprise" does not evoke the same visceral response elsewhere (other countries have different "religions") but also because the experience with cost control has been different. The process of control is difficult, imperfect, and in a number of ways unsatisfactory, but it has not heretofore been an obvious failure. In Canada the cancer is in remission; we are not so interested in lactrile.

This language implicitly assumes that the current approach to health care cost containment in the U.S. will be ineffective. As emphasized above, that may be premature. The evidence so far is negative; numerous examples of apparent localized "successes" add up to aggregate "business as usual," which is failure. If this continues, then it seems virtually certain that the wheel will turn again, and the marketplace will fall out of favor.

There are of course those for whom the free market plays the same role as God did for the eighteenth-century deists; from that perspective process, not outcome, is the desideratum. The free market is not preferred because it achieves other objectives, whether of cost, quality, or access: it is *itself* the objective, and whatever emerges from the market is right. If free competition among for-profit providers leads to further cost escalation, then so be it; that must be the socially preferred outcome.

This normative position, as a number of observers have noted, is not merely intellectually isomorphic with religion, it *is* a religion. The liturgy is frequently expressed in the peculiar jargon of economic analysis, just as the Roman Catholic church for most of its history carried out its ceremonies in Latin. And the set of values and beliefs which it embodies seem to have a particular appeal to economists, who ironically teach the distinction between normative and positive propositions as routinely and as confidently in the classroom as they confuse it outside. But the political advocacy of particular tenets of faith does not thereby become economics.

This rather peculiar sect will probably not be decisive. If it is true that the broader appeal in the U.S. of for-profit institutions and the "competitive marketplace" are a response to the failure of more traditional forms of organization and regulation to control costs, and if these newer appraoches fail in their turn, as they appear so far to be doing, then the fall-back position that escalation is no longer "bad" but now "good" because it is happening in a competitive environment is unlikely to carry much weight among those who pay the costs.

Something else will be tried, most probably (like PPS) some expanded form of public regulation. The recent report of the Harvard Medicare Project clearly points in this direction, recommending binding negotiated fee schedules for physicians, with mandatory assignment (in Canadian terms, no extra-billing), and global expenditure caps with prorating. For hospitals, some form of state-based all-payers budget determination looks very much like global budgets, while the report recommends less reliance on direct charges and more on premiums, but with the latter income-related, so looking rather like a tax . . .[34]

The whole package, in the sincerest form of flattery, appears to be an attempt to move as close as possible to Canada without actually going there. It raises a host of debatable issues; but the key fact to which it responds is that displayed in Figures 1 and 2. If the objective is access plus cost control, the Canadian package works. If the present U.S. trends turn around, and the competitive approach also "works," the Harvard report will presumably gather dust, surviving only in the occasional footnote. But if not, it may well usher in the next wave.

However the institutional mix unfolds in the U.S., or indeed anywhere else, the shift in assumptions about particular institutions seems to reflect a change in fundamental attitudes toward or assumptions about clinical practice. The basic principle of the clinical freedom of the physician is being eroded both by increased competition among providers in the U.S. and by the public regulatory system in Canada and elsewhere.

As noted above, the changed interpretation of interregional variations in utilization patterns and of the linkage between physician supply and overall utilization rates reflects an erosion of the assumption that clinical behavior is its own justification, that whatever doctors do must be right until (rigorously) demonstrated otherwise. The increased acceptance of for-profit organizations and alternatives to fee-for-service practice is similarly a rejection of the principle that the individual clinician, uninfluenced by external constraints—whether from the market or from public or private managers—is the best judge of the patient's interests.

In the U.S., this erosion has been accompanied by the fall of a supporting principle, that of "free choice of physician" whereby the payer for services was barred from restricting the patient's choice. This of course was always a disability imposed on patients in that it did not permit them to contract away their "right" of free choice in return for other advantages such as lower premiums (or for that matter to exercise it with respect to nonlicensed practitioners). But this principle buttressed clinical freedom by making it difficult for third-party payers to select among (and thereby to negotiate with) practitioners on the basis of either fees or practice patterns.

In Canada, as in other countries with universal payment systems, free choice has thus far been maintained, and clinical freedom has been restricted only indirectly through the fee schedule and the hospital budgetary process. But the trends, as in the U.S., seem clear. The lesson of cost containment appears to be that, in the long run, it is incompatible with the clinical freedom of the practitioner, although the form of the resolution of this contradiction is not yet clear and may be quite different in different countries.

Research resonance: The evolving audience for policy analysis

The emphasis on the importance of changes in background or default assumptions, on what policy makers believe when the evidence is incomplete, does not imply that nothing useful is learned from health care research, whether at the "hard end" of the randomized controlled trial or in the softer form of policy analysis which attempts to organize and weigh incompletely specified probabilities with incomplete and imperfect data. Obviously much *is* learned, not least by those who carry out the research. But this learning takes the form of incremental changes in a broader belief framework. Research results are never decisive, because they are almost never conclusive, and even when they are, they can fairly easily be misinterpreted or suppressed.

The experience with cost control illustrates the critical importance of the policy audience, the putative customers for research results. What they are able to hear is heavily influenced by what they want and expect to hear, their background systems of beliefs. This in turn changes with the external environment and pressures they perceive—beliefs are shaped by needs (although it may be that *individuals* do not often change their beliefs, but are simply replaced).

New knowledge of the sort that emerges from research thus may be picked up and amplified or muted and suppressed, depending on whether or not it resonates with the beliefs or perceived needs of the moment. This is not to suggest that only research which will "sell" is worth doing or supporting. Apart from the significance of knowledge for its own sake, if the conventional wisdom has got it wrong, the problems will be back and the audience may be more receptive next time. But the audience or resonance effect raises, as an interesting and important object of study in itself, how knowledge (or ignorance) becomes translated, through the formal and informal political processes, into policies and laws.

Notes

1. U.S. health expenditures data referred to here and subsequently are drawn from tables provided with a press release, "HHS News," issued 29 July 1986 by the Department of Health and Human Services. These contain preliminary 1985 data by expenditure component, and revised total expenditures from 1978. Expenditures by component from 1980 to 1984 are from Table 2 of K. R. Levit et al., "National Health Expenditures, 1984," *Health Care Financing Review* 7 (1985): 1–35; components from 1965 to 1979 and totals from 1965 to 1977 are from Table 2 of R. M. Gibson et al., "National Health Expenditures, 1983," *Health Care Financing Review* 6 (1984): 1–29; earlier data back to 1948 are from B. S. Cooper et al., *Compendium of National Health Expenditures Data* (Washington: U.S. Department of Health, Education, and Welfare, 1973), DHEW Pub. No. (SSA) 73-11903. Revised GNP data are from "Selected National Income and Product Estimates, 1929–85," *Survey of Current Business* (Washington: U.S. Department of Commerce, February 1986) pp. 17–23, with additional minor revisions to the 1983–85 data provided by K. R. Levit of HCFA, as of August 1986. The 1990 projections are from M. S. Freeland and C. E. Schendler, "Health Spending in the 1980s: Integration of Clinical Practice Patterns with Management," *Health Care Financing Review* 5 (1984): 1–68, Tables 1 and 5.
2. E. Kleiman, "The Determinants of National Outlay on Health," in *The Economics of Health and Medical Care*, M. Perlman, editor (London: Macmillan, 1975), pp. 66–81; and J. P. Newhouse, "Medical Care Expenditure: A Cross-National Survey," *Journal of Human Resources* 12 (1977): 115–25.
3. Organization for Economic Cooperation and Development, *Measuring Health Care 1960–1983* (Paris: OECD, 1985), Social Policy Studies No. 2.
4. Sources for U.S. data in Figures 1–3 are in note 1. Canadian data from 1975 to 1985 referred to here and subsequently are prepublication tabulations of recent revisions and updates made available by Health and Welfare Canada, Health Information Division, as of September 1986. Data from 1970 to 1975 are from Health and Welfare Canada, *National Health Expenditures in Canada 1970 to 1982* (Ottawa: HWC, n.d. [1984]). Earlier data are from Health and Welfare Canada, *National Health Expenditures in Canada 1960–75* (Ottawa: HWC, 1979); and R. D. Fraser, "Vital Statistics and Health," in *Historical Statistics of Canada* (2nd edition), F. H. Leacy, editor (Ottawa: Statistics Canada and SSHRC, 1983). Canadian data on national health expenditures (NHE) comparable to those for the U.S. were not compiled prior to 1960; the personal health care (PHC) series shown in Figure 1 from 1948 to 1985 includes only costs of hospitals, services of physicians and dentists, and prescription drugs.
5. Levit et al., "National Health Expenditures, 1984."
6. A selection of the supporting studies is in R. G. Evans, "Illusions of Necessity: Evading Responsibility for Choice in Health Care," *Journal of Health Politics, Policy and Law* 10 (Fall 1985): 439–67.
7. Levit et al., "National Health Expenditures, 1984," Tables 1 and 11.
8. Reported in *Medical Benefits: The Medical-Economic Digest*, 15 May 1986.
9. Levit et al., "National Health Expenditures, 1984," p. 7.
10. Fee increase data are reported in Levit et al. for 1984 and preceding years, in *Medical Benefits* (15 May 1986) for 1985, and for first half 1986 were compiled from Bureau of Labor Statistics data as of mid-August, 1986, and kindly provided by Professor Uwe Reinhardt of Princeton University.

11. The pattern of escalation of U.S. physician fees over time, in the context of a comparison with the Canadian experience of negotiated binding fee schedules, as described in Chapter 3 of M. L. Barer, R. G. Evans, and R. Labelle, "The Frozen North: Controlling Physician Costs Through Controlling Fees—The Canadian Experience," a monograph prepared for the U.S. Office of Technology Assessment project on "Physician Payment and Medical Technology under the Medicare Program," November 1985.
12. A survey of Minnesota physicians in 1982 found that 60 percent reported that they would respond to increased competitive pressures by *raising* their fees; only 4 percent thought they might lower fees, and 11 percent might join an HMO or PPO. See S. S. Foldes and S. McCollor, *Medical Practice in Minnesota: Physician Perceptions of Medical Manpower, Competition, and Other Public Policy Issues in 1982* (Minneapolis: Minneapolis Medical Association, 1983), quoted in H. S. Luft, S.-C. Maerki, and J. B. Trauner, "The Competitive Effects of Health Maintenance Organizations: Another Look at the Evidence from Hawaii, Rochester, and Minneapolis/St. Paul," *Journal of Health Politics, Policy and Law* 10 (1986): 625–58. The majority gave the "wrong" answer; increased competition is supposed to cause fees, like any other price, to fall. From this perspective physicians simply do not understand economics, and survey responses do not predict behavior. Subsequent experience suggests the converse. The survey may have correctly indicated how physicians would respond to competition, a "perverse" response implying that many economists do not understand medicine.
13. Levit et al. "National Health Expenditures, 1984," Tables I and II; Barer et al., "The Frozen North," Chapter 3.
14. Comparative U.S. and Canadian data are reported in M. L. Barer and R. G. Evans, "Riding North on a South-bound Horse? Expenditures, Prices, Utilization and Incomes in the Canadian Health Care System," in *Medicare at Maturity: Lessons from the Past, Challenges for the Future*, R. G. Evans and G. L. Stoddart, editors (Calgary: University of Calgary, in press). The detailed analysis of fee schedule changes, and of the negotiation process and its effects, is in Barer et al., "The Frozen North."
15. Average lengths of stay in "public general" hospitals in 1984-85 were 10.86 days (Statistics Canada, *Hospital Statistics Preliminary Annual Report 1984-85* (Ottawa: Statistics Canada, 1985), Cat. No. 83-217A. This average excludes long-term care hospitals, but includes LTUs in short-term hospitals. Changes in the distribution of days over the 1970s for the province of Manitoba are analyzed in more detail in D. J. Roch et al., *Manitoba and Medicare 1971 to the Present* (Winnipeg: Manitoba Health, 1985).
16. Or perhaps the competitive strategy has been misapplied, or subverted, the "revolution" being lost through ignorance, incompetence, or malice. Such an argument easily relapses into comfortable circularity—the strategy *must* have been misapplied, since it is not working . . .
17. J. Merrill and C. McLaughlin, "Competition versus Regulation: Some Empirical Evidence," *Journal of Health Politics, Policy and Law* 10 (Winter 1986): 613–23; Luft et al., "The Competitive Effects of Health Maintenance Organizations"; A. N. Johnson and D. Aquilina, "The Competitive Impact of Health Maintenance Organizations and Competition on Hospitals in Minneapolis/St. Paul," *Journal of Health Politics, Policy and Law* 10 (Winter 1986): 659–74; and R. Feldman et al., "The Competitive Impact of Health Maintenance Organizations on Hospital Finances: An Exploratory Study," *Journal of Health Politics, Policy and Law* 10 (Winter 1986): 675–97.
18. Canadian Medical Association, *Evidence Presented to the Special Committee on the Federal–Provincial Fiscal Arrangements*, House of Commons, Canada, Minutes of Proceedings and Evidence, Issue No. 10, pp. 10-3 to 10-54 and 10A-1 to 10A-44, Tuesday, 12 May 1981, First Session, Thirty-Second Parliament, 1980–81.
19. H. J. Aaron and W. B Schwartz in *The Painful Prescription: Rationing in Health Care* (Washington: The Brookings Institution, 1984) have popularized the phrase, but the general class of argument has had a long and wide currency among defenders of the status quo in health care delivery. At root it is a projection to the policy arena of the ancient threat implicit in "doctor's orders"—"If you do not follow my advice, the consequences for your health will be grave."
20. Evans, "Illusions of Necessity."
21. D. Feeny, G. Guyatt, and P. Tugwell, editors, *Health Care Technology: Effectiveness, Efficiency, and Public Policy* (Halifax: Institute for Research on Public Policy, in press).

22. M. R. Chassin et al., "Variations in the Use of Medical and Surgical Services by the Medicare Population," *New England Journal of Medicine* 314 (1986): 285–90.
23. P. D. Fox, W. B. Goldbeck, and J. J. Spies, *Health Care Cost Management: Private Sector Initiatives* (Ann Arbor, MI: Health Administration Press, 1984), p. 89.
24. A recent comprehensive review of the intellectual and methodological structure underlying physician manpower projections and planning, as part of a critique of a recent exercise, is in J. Lomas, M. L. Barer, and G. L. Stoddart, *Physician Manpower Planning: Lessons from the Macdonald Report* (Toronto: Ontario Economic Council, 1985).
25. Since the physician to population ratio has been rising for decades, and on present projections will continue to rise for more decades, one would expect that analyses based on some augmentation of current utilization levels would inevitably yield a forecast of surplus, if not a current finding. But the future is a big place. It suffices to express concern about future possibilities, while emphasizing not only that there is no present surplus, but that action in the future should of course be based on further study. Such further studies, at a later date, will take as appropriate the new, higher utilization rates which will have been generated by the increase in manpower, so they in their turn will find no surplus. The history of official manpower "planning" in Canada repeats this dismal cycle several times; each new study redefines the target level to ratify the then-current situation. See Lomas, Barer and Stoddart, "Physician Manpower Planning." The U.S. GMENAC report, on the other hand, avoids this inherent circularity by basing its estimates of requirements on an "adjusted needs" concept which is derived from epidemiological data for the population served, and judgments about appropriate clinical practice responses. See *Report of the Graduate Medical Education National Advisory Committee to the Secretary, Health and Human Services* (Washington: Public Health Service, Health Resources Administration, 1980). Appropriate utilization patterns and levels are thus no longer determined, at least not as a matter of definition, by observed practice. The report projects very large physician surpluses in the U.S. in 1990 and 2000.
26. A. R Tarlov, "HMO Enrollment Growth and Physicians," *Health Affairs* 5 (1986): 23–35.
27. The recent reversal, in the summer of 1986, of the AMA's long-held position on the issue, may provide indirect support for this position. After many years of assertion that physician manpower was a matter for the "free" market to deal with, and not a policy problem (e.g., J. F. Boyle [president of the AMA], in "Response to Uwe Reinhardt," *World Medical Journal* 32 [1985]: 14-6, said "... there is no evidence at this time of a physician surplus in the United States"), the AMA has now decided that there *is* a surplus, which the market will *not* deal with, though it is of course the government's fault. (*Final Report of the AMA Task Force on Physician Manpower: House of Delegates Handbook, Board of Trustees Report T*, reported in "AMA Backgrounder," June 1986, "There is a surplus of physicians, regardless of specialty, in many areas of the U.S. ... [and] ... a surplus or impending surplus ... in most specialties.") This suggests a loss of confidence in its members' ability to control the "free" market. The AMA task force, however, asserts that the surplus will have negative consequences for the cost and quality of patient care. This is the complete reverse of the view of supporters of the competitive marketplace—not surprisingly—but the weight of evidence on the performance of the "physician market" so far supports the AMA position. The task force is probably right, regardless of its motivations (T. R. Marmor, "The More There Are, The More We Pay," *New York Times*, 29 June 1986). And if organized medicine routinely makes self-serving use of the concept of "quality of care"—and they do—many of the advocates of increased competition simply trivialize it.
28. Lomas, Barer and Stoddart, "Physician Manpower Planning"; the report confirms an aphorism of Stoddart to the effect that nothing is ever wasted—it can always serve as a horrible example.
29. The GMENAC report (see note 25) *does* go back to the epidemiological foundations. It will be interesting to see if, as the methodology is used over time, growth in manpower supply enters into the projection of needs indirectly by modifications to the appropriate patterns of clinical response to particular illnesses.
30. H. S. Luft, *Health Maintenance Organizations: Dimensions of Performance* (New York: Wiley, 1981).
31. J. M. Watt et al., "The Comparative Economic Performance of Investor-Owned Chain and Not-for-Profit Hospitals," *New England Journal of Medicine* 314 (1986): 89–96.
32. A survey of the evidence and analysis underlying debates about the proper role of differently motivated organizational forms in health care is in G. L. Stoddart and R. J. Labelle, *Privatization*

in the Canadian Health Care System: Assertions, Evidence, Ideology and Options (Ottawa: Health and Welfare Canada, 1985).

33. And not only in the hospital sector. R. M. Bailey, *Clinical Laboratories and the Practice of Medicine* (Berkeley, CA: McCutchan, 1979) developed both analysis and evidence for the view that while for-profit motivation might encourage commercial laboratories to lower the unit costs of testing, this was quite consistent with *higher* overall costs of achieving particular therapeutic outcomes in a for-profit environment.
34. Harvard Medicare Project, *Medicare: Coming of Age: A Proposal for Reform* (Cambridge, MA: Kennedy School of Government, Harvard University, 1986).

Representative **Scheuer**. Well, we had four phenomenally interesting pieces of testimony in this panel. This has been a phenomenally stimulating and thoughtful and challenging panel. I will ask unanimous consent to keep the record open for additional written questions for another 10 to 12 days. I hear no objection, so that's ordered.

[The following questions and answers were subsequently supplied for the record:]

RESPONSES OF GEORGE A. SILVER, M.D., UWE E. REINHARDT, AND ROBERT G. EVANS TO ADDITIONAL WRITTEN QUESTIONS POSED BY REPRESENTATIVE SCHEUER

Panel # 2 Foreign Experience

1. I believe that all of the members of this panel acknowledge that although the U.S. is spending a higher percentage of GNP on health care than any other country, the U.S. does not unequivocally have the "best" health care system. Some of you would argue that measures of health status are not available to reach definitive conclusions; others would point to more limited access to health care in the U.S. and higher infant mortality rates than in the other OECD countries; still others presume that the U.S. system has higher amenities and quality of care in some specific areas. While there is no "magic" number for the correct percentage of GNP to spend on health care, wouldn't you expect the U.S. to have a much more "universal" system given our large expenditures?

FOLLOW-UP

If you believe our system is ineffective what changes would you make? or what features of the European systems would you adopt?

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July 29, 1988

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Dear David,

With respect to your question(s), I agree with your formulation in paragraph one, that considering the expenditures, one would expect that the entire population could be covered, that there would be universal coverage and full scope of services provided.

So far as follow-up is concerned, it isn't so much that our system is "ineffective", as it is misdirected. The system is so designed as to focus on the professionals and providers of services, to protect them, so to speak and assure them reimbursement, rather than focussing on the patients, the public, and guaranteeing that services will be provided. European systems take this latter tack. In such circumstances, the public is guaranteed care and the providers must negotiate their demands with insurance companies or government. Our system is effective enough for those patients who can pay whatever the traffic will bear.

I would add to this, several other points.

1. Accountability has to be assured, and not simply through some payment mechanism. That is, the patient's interests should be protected by reporting and analysis of the services, not the charges.

2. Inasmuch as there is only hazy information on the effectiveness and satisfaction of various systems, the federal government should initiate a grant or contract program that would permit several states to inaugurate universal, comprehensive programs so that over a period od time, the effectiveness and satisfaction of the various programs can be determined. Moreover, a variety of forms of service delivery should be encouraged, in order to be able to select the best and most efficient and economical as the model. This would follow Charles Schultz's "market analogue" approach.

3. It may also be well to attack the state by state argument by allowing regional efforts. Perhaps a comprehensive children's program could be inaugurated first, since that will be far cheaper to fund and offer interesting lessons as well.

I hope this helps.

Cordially,

George

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Uwe E. Reinhardt
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August 1, 1988

Mr. David Podoff
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Dear David:

Many thanks for your letter of July 21 concerning the foreign experience in health care. Here is my response to the question you raise:

The overall quality of a nation's health system has three dimensions: (1) its clinical quality, ideally measured by the contribution to health status made by health care, other things being equal, (2) its social quality, measurable by the percentage of the population who have unfettered, dignified access to an adequate level of health care and (3) the luxuriousness of the system, measured perhaps by the percentage of hospitals that have atriums and other such indices.

I think that, with the exception of some financially strapped public hospitals and some Medicaid mills, America ranks very high on the luxury dimension.

I believe us to be ranking low, and possibly at the bottom in the OECD countries, in terms of the social quality of our care, for reasons that were brought out in our testimony.

As to the clinical quality of our care, I would say that at its best, America's health care is unrivalled in the world, at its worst, the clinical quality of American health care is probably unmatched in the OECD and, on average, we simply do not know whether countries such as Canada, West Germany or Sweden outperform us.

The reason we cannot make a clear statement on the clinical quality of our health care is that we do not as yet know how to define and measure that dimension. We cannot just take crude health status indicators such as infant mortality rates or death rates in general, because other social factors determine these as well. For example, a recent survey by the Justice Department revealed that ours is a much more criminal and violent society than those in Europe and Canada. Crime and violence breeds health care costs. Similarly, our teenage pregnancy rate is double that of Europe. Our illiteracy *rate is much higher than Canada's and Europe's. It is well known that health status increases with education, for obvious reasons; and so on and so forth.*

In other words, other things being equal, the US would always have to spend somewhat more on health care than other nations just to break even.

All that having been said, however, I still maintain that our pluralistic health system is structured to be relatively inefficient in terms of producing good health, as my testimony indicated and as is becoming increasingly apparent form the growing research literature pointing to the application of substantial percentages of unnecessary medical procedures. There are many reasons for this built-in inefficienty -- among them this nation's love affair with multiple choices. But one of these reasons should be perfectly clear: what one person perceives as inefficiency another perceives as income. The system is designed to maximize health-care incomes.

As to your follow-up question, I have become convinced that the United States could not easily graft any of the European or the Canadian health system onto our socio-economic and political structure. All of these other nations have parlimentary systems with party discipline. The promises of a winning political party can therefore be implemented with relative ease. By contract, the United States government is really what Germany was prior to Bismarck (prior to 1871): a set of loosely allied principalities (speak: Congressman and -women and Senators, and their staffs), each with its own lord doing deals with the outside world. Thus, I cannot imagine our government's ever legislating as clean and sensible a national health insurance scheme as Canada has.

Instead, we ought to start thinking of an honest two-tier health-care system, one for publicly financed patients, and another one (or really, a multiplicity of other ones) for privately-financed patients. I have sketched out such a scheme in the attached. You may wish to include it in the record.

As I mentioned to you on the telephone, I enjoyed participating in your hearings and look forward to the printed version, which I intend to use in teaching.

With my best regards, also to Congressman Scheuer,

Sincerely,

Uwe E. Reinhardt

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September 26, 1988

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Dear Mr. Podoff:

In reply to Congressman Scheuer's follow-on question to Panel #2, on foreign experience with health insurance:

1) I think it is an understatement to say that "... the U.S. does not have unequivocally the "best" health care system." I know of no student of comparative health care systems who would seriously propose the U.S. as even in the running for "best", however defined. It does appear to be common for public pronouncements on health care in the U.S. to begin with references to "the world's best system"; visitors from other countries try to be polite during such rituals. One has to remember that the words are not necessarily supposed to mean anything.

   It is true, I believe, that the U.S. provides examples of both quality and technical virtuosity in health care which are second to none. Some of the best medicine in the world is practiced in the U.S., though not all of it. On the other hand, the U.S. also appears to provide examples of care, or the lack of it, which would not be tolerated in any other developed society. Moreover, these shortcomings appear to be systemic, not random accidents. Such shortcomings are clearly not regarded with indifference among Americans, but the difference is that in other countries moral indignation would be translated into political action. In the U.S. this does not happen.

   Having said this, I freely admit that the standards by which a nation's health care system should be judged are by no means

.../2

unambiguous, or uncontroversial. Mortality and morbidity patterns are clearly important, but depend on many other factors besides health care. And there are a number of other characteristics in addition to these ultimate outcomes, which should be included on any such evaluation. The choice of relevant characteristics, their weightings, and their measurement, will differ from one observer to another ... evaluation is, by definition, not a value-free exercise!

2) But to answer the question, no, I cannot say that I would expect the U.S. to have a more universal system, given its high level of expenditure. I do not think that, looking across the world, I can see any clear connection between expense and universality. The question seems to me to presuppose that universality is expensive, and that given the amount that the U.S. currently spends, it ought to be possible for you to "afford" universality (whereas countries with lower levels of resources might not).

If that is what the question implies, it seems to me to get things the wrong way around. As I read the evidence from the countries of Western Europe and North America, there are several examples (the U.K., Canada, perhaps West Germany) of universality being associated with lower, not higher, costs. Rather than universality being a sort of expensive luxury, it appears to be an important factor in making possible the control of overall health care costs.

So I would turn the point around; I would expect the U.S. to spend a very large share of its GNP on health care, because its funding system is both so fragmented and so dominated by private organizations. For the same reasons, I would expect a significant share of the U.S. population to have no, or inadequate insurance coverage, and for this in turn to result in problems of access to care, and of severe economic hardship for the unlucky and unhealthy. Only if, in some way, the U.S. can develop a more "universal" system of paying for health care, is it likely to find a solution to its expenditure problem. Ironically, uncontrollable health care costs may be a punishment for failure to assist each other!

3) It follows from this view that I believe the U.S. is already devoting enough, and indeed considerably more than enough, resources to health care financing, to support a system as universal and comprehensive as any in the known world - including even Canada. That of course refers to resources from all sectors - public insurance like Medicare and Medicaid, public delivery like the VA, private insurance of all types, and the extraordinary (compared to the rest of the world) proportion spent by individuals and families out of their personal resources. There is no technical or economic barrier to universality in the U.S.; the problems are political, and behind politics, cultural and psychological.

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But those resources would clearly have to be redeployed. They must be used not only, or even primarily, to care for different people - the struggle would not be principally between current "have" and "have-not" patients. (Although the opponents of re-deployment would obviously present it that way.) But the resources now devoted to health care would have to be used to buy different kinds of things.

This opens up a large and contentious area. But to summarize from my earlier testimony, there are three major areas for re-deployment in the U.S. system. First, there are the wasted resources used up in running an extraordinarily inefficient prepayment and administration system. Excess costs here account for between five and ten percent of your total health bill. Second, your way of paying physicians' services is extraordinarily generous to physicians: fees and incomes are much higher than they need to be to attract people to ths sector.

You may be told, along with projections of physician surpluses, of falling numbers of applicants to medical schools. If at some time in the future, attracting new physicians becomes a problem, fee subsidies up front are much more powerful incentives than speculations about future incomes. I believe that what is currently going on in applications for medical places is primarily the demographic impact of the drop in births in the mid-1960s, perhaps compounded with very high fees for entry, and highly publicized uncertainty about the future of medicine. In Canada, medical school fees run $1500-$2000 per year, and the system is pretty stable; we still have not figured out how to deal with the physician surplus!

Third, as you know, a great deal of money is spent - and earned - in the U.S. on/from the provision of services of little or no proven benefit - or indeed of proven non-benefit. The U.S. is in the forefront, world-wide, of "technological assessment", or the evaluation of the effectiveness of health care. This is in no small measure due to the support for this activity by the U.S. Congress. All other countries draw heavily on American research in this area. But to date, the U.S. has been much less successful in using this information to guide medical practice and to control costs. That is the third area in which resources could be freed up - one could easily afford to provide universal access to the services that actually do some good, if one could eliminate the services that do not.

4) So what to do? the final question. First, I am not sure if the time is ripe yet to do anything. It seems to me that while a large number of Americans are suffering from the inadequacies of the health care system, a large number of others are still profiting very handsomely from it. And the latter are by far the more potent, politically.

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Worse still, the majority of the population fall into neither category - yet. But political advice from an amateur, both unelected and foreign, is unlikely to be worth very much. I think the chances of "going universal", on either the Canadian or the U.K. model, are rather small, in this generation at least, particularly if one tries to run an entire system from Washington. The Canadian systems are provincial, with federal guidelines and fiscal contributions. No one has ever run a system for two hundred and fifty million people; the largest Canadian system is in Ontario, with nine million.

Moreover, the private insurance system is not going to disappear overnight. But I understand that it is changing its form very rapidly as private employers move toward various forms of self-insurance. Perhaps the proper thrust of federal policy should be to subsidize state or regionally based pools of insuring organizations, which cover entire populations under federal guidelines. After all, a Canadian provincial government is a sort of geopraphically based monopoly buyer of care. If one could coordinate groups of PPOs or other managed care systems, starting with a region, such as Minnesota? where such organizations already have a dominant share of the market, one might be able to draw the entire population into a sort of buyers' co-op, which with enough federal subsidy, would be attractive to private employers as well.

The problem would be, not only to attract in the existing insurers to a pool including the uninsured, but to create an administrative organization capable of running a payment system and negotiating with providers, which was both politically and fiscally responsible. American states do not, I believe, have the same resources as Canadian provinces. Perhaps the West German model deserves much closer attention, since there the federal and state governments have succeeded in co-ordinating a multiplicity of different sorts of sickness funds, some regionally based, some enterprise based, some union based. A tight legislative framework has permitted both universality and cost control, without the setting up of a public monopoly of the payment system as in Canada.

The West German system is far from perfect, and is subject to a lot of stresses and strains of its own. (Some Germans are now looking at Canada!) But it may be a reasonable model for a nation which already has a large private system. For that matter, the U.S. is a very large country. Would it be possible to permit/encourage individual states to try out either the Canadian or the German models, again with overall federal guidelines (e.g. who has to be covered, and for what) and financial support?

One way or another, you have to simplify and consolidate the payment structure in the U.S., both to reduce the waste of resources on "paper-pushing" as opposed to providing care, and to negotiate more effectively with the providers of care as to what it is you want to buy, at what price. And the key feature of the European or Canadian system which you have bring over, is some form of global budgetary control, so that you have a basis for negotiation. You can do that by flowing all the money through the public sector, as Canada does (for hospital and medical services), or you can create a regulatory network (strait-jacket) to constrain the private payers, as West Germany does - and of course choke off the inevitable efforts by providers to circumvent controls by direct access to the patient's own resources.

It will not have escaped your attention that this answer is inconsistent, to say the least, with policies based on the "competitive, market-driven" approach to both finance and delivery of health care which has been intellectually dominant in the U.S. in this decade. I do not wish to be interpreted as wholly rejecting that approach, particularly in the sophisticated form which it has been given in the writings of Alain Enthoven, for example. I am in the camp of those who say it is still too soon to judge that approach a complete failure in practice - though it is getting close. But I think that if one adopts the "competitive" approach to health care, one has little to learn from experience outside the U.S. - even from Canada. No one else has ever tried it.

This has been a rather long answer; I recall you referred on the telephone to "three or four paragraphs". But you probably did not believe that either. I hope it may be helpful.

Yours sincerely,

Robert G. Evans

Robert G. Evans
Professor

Representative SCHEUER. Let me ask you one or two broad questions. Is the presence or absense of competition in the health care system an important ingredient in controlling costs and helping to keep costs down? We have some of that in this country. I take it we have very little in Europe and in Japan you have the national health care programs where I wouldn't think there is competition. Is more competition, judging from foreign experience, an answer in helping us keep health care costs down or is that sort of irrelevant?

Mr. REINHARDT. Actually, the term competition—you mean price competition?

Representative SCHEUER. Yes.

Mr. REINHARDT. And it turns out in almost any country——

Representative SCHEUER. Or quality competition I suppose also.

Mr. REINHARDT. Quality competition, of course, drives costs up. We do know that. As hospitals compete for patients, they have to attract physicians and one way to attract a physician is to get the latest equipment. It's just like the old airline industry that competed with sandwiches as you'll recall, before we deregulated the airlines.

But in health care in any given year, 70 to 80 percent of all health expenditures go to about 10 percent of the people. That's always been the case, both for young and old. Which means that 80 percent or so of health expenditures is actually incurred by very sick people. Recently I wound up in an emergency room and this doctor was doing all kinds of things to me and I was giggling and saying, "Actually, I'm supposed to bargain for these tests, doctor, and shop around. I'm an economist, a card-carrying one. I'm supposed to test whether these tests are necessary and then to shop around for cheap ones." I think it's just absurd to think that frightened patients or frightened relatives will shop around for cheap care in the way economists model that process. That is why I know of no country that is seriously contemplating using price competition in a major way—or seriously thinking of turning their health policy over to economists the way we have.

The interesting thing is we, of course, do not have the courage to practice this price competition either. If we did, Congress would have by now introduced competitive bidding for lab tests. But as you know, that's been postponed time and time again.

Representative SCHEUER. That's disgraceful.

Mr. REINHARDT. And the reason is that basically the American people don't really believe in price competition in health care. They believe in all other kinds of competition, but not in price competition.

Representative SCHEUER. Well, I think if you put this to a national plebescite I think they would believe in price competition for labs. I think they would, but we have all kinds of political impediments in the way. It's outrageous that we haven't gone to not only price competition but far higher standards for personnel in the labs and so forth.

Dr. SILVER. Don't you think that Americans are a little bit leery about price competition, like the astronauts who complained bitterly that you have to remember this thing was built by the lowest bidder?

Representative **Scheuer**. I think if they were assured that quality standards were maintained far better than they are now—we have very little control over quality standards for labs and we've had a whole case of horror stories recently on grossly untrained people producing test results that erred astronomically overstating morbidity or overstating illness and understating illness. It's bizarre that we haven't established standards and that we haven't established competition where it seems quite—where all the conditions seem to be present to make competition appropriate. I think the public would approve of it if they ever had a chance to vote in a national plebescite. Do you want the Government to establish standards and testing standards on the quality of the training of the people who are doing all these tests and do you want price competition? I think they would vote for it in a second.

Dr. **Silver**. The thing is, in a lab test, for example, the problem is that you have to do fairly frequent monitoring. You can't just give the lab a certificate and then come back next year. The British had a scandal this past year with respect to fraudulent testing in a distinguished laboratory that had been standardized. I think that the competition only adds a dimension of incentive for people to circumvent a standard. I think that you should have standards for laboratories, but I don't know that it should be the basis for price competition. I think Uwe Reinhardt is absolutely right. To shop around for services is almost to invite people to cheat.

You asked another question of all the other panelists and I'm very eager to give you an answer.

Representative **Scheuer**. Dr. Silver, I have to leave for this rollcall vote in 2 minutes, so——

Dr. **Silver**. I don't know whether it will still be on the table.

Representative **Scheuer**. Well, I tell you, I'm going to leave in 2 minutes and I will knock the gavel before I leave, but you keep on talking so that we fill out the record. OK?

NEED DEMONSTRATION PROJECTS

Dr. **Silver**. I just have an idea for you for legislation. I think that despite what Uwe Reinhardt says about pluralism, the United States is so heterogeneous that it does need a lot of different solutions to the same problem and I think that one of the things the Federal Government can do is to appropriate money to generate projects in the States for State models of health insurance. We have a long history to the effect that we don't have national programs in social welfare fields until we've had State models. Neither did Canada. They had to have Saskatchewan first. And until we get an effective State model of health insurance, we're not going to have a national program. I think the Federal Government ought to appropriate $200 million for a couple of States to try this and that this will then give us the clue as to how to proceed with a national program.

Representative **Scheuer**. All right. I'm going to declare this remarkable hearing adjourned.

[Whereupon, at 1:30 p.m., the subcommittee adjourned, subject to the call of the Chair.]

THE FUTURE OF HEALTH CARE IN AMERICA

TUESDAY, MAY 10, 1988

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON EDUCATION AND HEALTH
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m., in room 2325, Rayburn House Office Building, Hon. James H. Scheuer (chairman of the subcommittee) presiding.

Present: Representatives Scheuer and Downey.

Also present: David Podoff and Dayna Hutchings, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE SCHEUER, CHAIRMAN

Representative SCHEUER. Good morning. The Subcommittee on Education and Health of the Joint Economic Committee will come to order.

We will continue our series of hearings on "The Future of Health Care in America." Today we are going to be reviewing trends in population and health status that are likely to affect health care into the 21st century.

Last week we received testimony showing that health care—our third largest industry—continues to grow more rapidly than the economy and prices continue to go up. Health care prices continue to go up at about twice the rate of the Consumer Price Index. Every year the share of our gross national product that is devoted to health care goes up.

We now spend more than 11 percent of our gross national product for health care, which is a higher percentage of GNP than any other industrialized country in the world. The average for all of the OECD countries, the Organization for Economic Cooperation and Development, is about 8 percent. So we're almost 50 percent higher than the average of the OECD countries and there is absolutely no evidence whatsoever that their health outcomes are inferior to ours and, in fact, in many respects they are superior. For example, we are 20th out of 22 among OECD countries in infant mortality.

One witness told us last week that we've spending extra money to support a pluralistic, relatively free-wheeling health care system that offers Americans numerous choices, but with high overhead expenses necessary to process the multitude of reimbursement claims through a multitude of repayment systems.

One of the things that we will be trying to figure out is whether that degree of pluralism and diversity on a cost-benefit basis measures up; and if it doesn't, how can we greatly reduce the cost while moderately reducing the diversity to come up with a leaner, meaner system.

In today's hearing we will be facing the challenges of changing demographics. The rate at which people are born, the rate at which they die and the rate at which they move. And we will be exploring the implications of changing demographics.

We've been joined by our distinguished colleague, Congressman Tom Downey. We're very happy to have you here, Tom. Why don't you come on down and join the circle.

The fraction of people over 65 has increased from 8 percent in 1950 to about 11 percent today and it will double to 22 percent by the middle of the next century. That's a remarkable change and it's only exceeded in its interest and its exponential rate of climb by the percentage of our population that is over 65.

Between now and the year 2050, the percentage of the population that's over 85 will go up five times, from 1 percent now to about 5 percent in 2050.

Well, I hope that as a result of this hearing today we may begin to think about changing the direction of our health care system from sick care to health care, with all the manifold benefits that that would bring. We begin today's hearing with a distinguished panel of experts who will describe the basic demographic trends that will help shape the demands of our health care system into the 21st century.

The panel includes Michael Carozza, Deputy Commissioner for Policy and External Affairs, Social Security Administration, accompanied by Harry C. Ballantyne, Chief Actuary; John G. Keane, Director of the Bureau of the Census, accompanied by Cynthia Taeuber, Chief of Age and Sex Statistics Branch, Population Division; Robert Binstock, Henry R. Luce, professor of aging, health, and society at the School of Medicine of Case Western Reserve; and James Vaupel, professor of public affairs at the Center for Population, Analysis and Policy, Hubert H. Humphrey Institute at the University of Minnesota.

We're delighted to have you all. Before we commence, I'd like to ask Congresssman Downey, my distinguished colleague, if he would like to address the panel.

Representative DOWNEY. I have nothing to say, Mr. Chairman, other than to congratulate you. I had a chance to review the last hearing you had and since then I have had to go up to speak at the University of Massachusetts Medical School on health care costs, so I look forward to this particular hearing. I think that, as one who has a vested interest in what happens in the year 2020, I am delighted that you are looking forward to those years.

Representative SCHEUER. Do you think I don't have a vested interest in 2020? I expect to be a full committee chairman by then. [Laughter.]

Representative DOWNEY. Thank you, Mr. Chairman.

Representative SCHEUER. I'm on both of the miracle drugs for cholesterol and that's going to assure my presence here at the Joint Economic Committee.

Representative DOWNEY. I hope so.

Representative SCHEUER. We will now proceed. Why don't each of you take maybe 7 or 8 minutes and then I'm sure when you're finished that Congressman Downey and I will have some questions. We will start with Mr. Carozza. Incidentally, let me say that your prepared statements will be printed in full in the record. Don't hesitate to sort of summarize your thoughts.

STATEMENT OF MICHAEL C. CAROZZA, DEPUTY COMMISSIONER FOR POLICY AND EXTERNAL AFFAIRS, SOCIAL SECURITY ADMINISTRATION, ACCOMPANIED BY HARRY C. BALLANTYNE, CHIEF ACTUARY

DEMOGRAPHIC TRENDS

Mr. CAROZZA. Thank you. I am pleased to appear before you today to discuss the implications of the demographic projections for the future of health care in America. My testimony is based on the intermediate assumptions of the 1988 Annual Report of the Social Security Board of Trustees, which was sent to the Congress last week.

To have a better understanding of future changes in the size and age distribution of the population, it's useful to review our past demographic experience. The most important factors affecting population growth are fertility and mortality. Fertility rates in the United States have fluctuated widely in the past. During the baby-boom years from the mid-1940's to the mid-1960's, the total fertility rate was historically high, reaching a peak of 3.7 children per woman in 1957. During the 1960's and the 1970's the rate dropped to about 1.8 children per woman, and has remained at about that level since the mid-1970's.

This cycle of high fertility rates followed by lower rates has created shifts in the age composition of the population. Today the baby-boom generation is part of the age group 20 through 44 years old. This means we currently have a favorable demographic age composition in terms of financing programs that provide benefits for the elderly. However, if fertility remains low and net immigration is not substantially increased, then the programs providing benefits for the elderly will face large increases in costs relative to the tax base when the baby-boom generation reaches retirement age.

Mortality rates at all ages have decreased dramatically during this century. Life expectancy at birth for males has increased from 46.4 years in 1900 to 71.1 years in 1985. For females, life expectancy has increased from 49 years in 1900 to 78.3 years in 1985. Life expectancy at age 65 increased from 11.3 years in 1900 to 14.4 years in 1985 for males, and from 12 years in 1900 to 18.6 years in 1985 for females.

Reductions in mortality result in more elderly people receiving benefits over a longer period and thus the cost of social security and medicare benefits becomes larger.

One index of demographic pressure on the cost of these programs is the aged dependency ratio. This is the ratio of the number of persons aged 65 and over to the number of persons aged 20 through 64, and it's closely related to the ratio of the number of social security beneficiaries to the number of workers. In 1985, for every person in the population who was aged 65 or over, there were five people in the age group 20 through 64, as compared to 5.9 people in 1960.

Mr. Chairman, the population projections in the 1988 Trustees Report are based on several assumptions. For the intermediate assumptions, the ultimate total fertility rate in the report is assumed to be 1.9 children per woman. The ultimate annual level of net immigration is assumed to be about 600,000 per year.

The increases in life expectancy which have occurred in the past reflect the historical trends of steady declines in mortality rates in the United States. Mortality rates declined at an average of 1.2 percent per year between 1900 and 1986. Considering the potential variation in the rate of future progress in medical and health care services, a range in the future rate of decline in mortality is assumed for these alternative projections in social security.

While mortality rates have been generally declining at all ages, the decline at older ages is the most significant to any consideration of the level of health expenditures. Coupled with the trend in fertility rates, the steadily declining mortality rates will result in a long-range increase in the proportion of the population age 65 and over. While mortality rates are not estimated to decline as rapidly in the future as they have in the past, reductions in mortality for the aged are expected to continue at a relatively rapid pace as further advances are made against degenerative diseases such as heart and vascular disease. Future declines in mortality rates will depend on such factors as the development and application of new diagnostic, surgical, and life-sustaining techniques; the presence of environmental pollutants; improvements in exercise and nutrition; the isolation and treatment of the causes of disease; the emergence of new forms of disease, such as AIDS; the prevalence of cigarette smoking; and the misuse of drugs, including alcohol.

Based on our intermediate assumptions, life expectancy at birth will increase from 71.5 years this year to 77.3 years in the year 2060 for males and from 78.5 years in 1987 to 83.9 years in the year 2060 for females. Life expectancy at age 65 will increase from 14.9 years in 1987 to 17.8 years in the year 2060 for males; and from 18.8 years in 1987 to 22.4 years in 2060 for females.

Using the intermediate assumptions for fertility, net immigration and mortality, the future aged dependency ratio is estimated to stay around one person age 65 or over for every five people aged 20 through 64, until shortly after the turn of the century. Thereafter, the ratio is projected to decrease to about 1 person aged 65 or over for every 2.5 people aged 20 through 64 by the year 2030. The burden represented by the doubling of the age dependency ratio, however, may overstate the total dependency burden on workers. Due to the continued low fertility rates that are assumed, the total dependency ratio, which would include children under the age of 20, is projected to increase from a current level of one dependent for every 1.4 people aged 20 to 64, to one dependent for every 1.25 people aged 20 to 64 by the year 2030. This reflects a smaller increase than does the aged dependency ratio.

AGING POPULATION AND COST IMPLICATIONS

The growth in the population aged 65 and over will undoubtedly increase the cost of health care for the aged. Also important to the increase in future health care costs is the aging of the elderly population itself. Over time, the proportion of the population reaching advanced ages is expected to increase. For example, the population aged 85 and over represents about 10 percent of those aged 65 and over today. However, by the year 2050, as you pointed out, Mr. Chairman, about 20 percent of the people aged 65 and over will be aged 85 and over, based on our intermediate assumptions. The ratio of persons aged 85 and over to those persons aged 20 to 64 will increase from about 2 percent today to about 8 percent by 2050. Because of the relatively higher health care utilization of those at ages 85 and over, this redistribution of the aged population toward more advanced age will further tend to increase health care expenditures beyond that suggested by the increases in the aged dependency ratio alone.

In conclusion, Mr. Chairman, expected future changes in the demographic composition of the population are important in the planning and financing of programs such as social security and medicare. It is anticipated that programs providing benefits mainly for elderly will begin to face rapidly increasing financial demands in about 30 years due to demographic age-composition changes. The ratio of population aged 65 and over to the population aged 20 to 64 will rise rapidly in the future because of the high birth rates during the baby-boom period, followed by the lower birth rates after the 1960's. Also of particular concern to policymakers is the aging of the elderly population itself. The advancing age distribution of the elderly will put additional pressure on the financing of acute and long-term health care in the future.

Thank you and I will be available to answer any questions when the other panelists have finished.

[The prepared statement of Mr. Carozza follows:]

PREPARED STATEMENT OF MICHAEL C. CAROZZA

Mr. Chairman and Members of the Subcommittee:

Good morning. I am pleased to appear before you today to discuss the demographic projections affecting the future of health care in America. My testimony is based on the population projections of the Social Security Administration. The latest projections appear, in summarized form, in the 1988 Annual Report of the Board of Trustees, which was sent to the Congress last week.

As shown in the 1988 report, the total population for Social Security purposes is estimated to increase to 320 million during the next 50 years, based on intermediate assumptions regarding future demographic changes. Today, the total population for Social Security purposes is about 254 million. But even more important with respect to future health care expenditures is the projected growth in the aged population. I will discuss this in greater detail later.

The population for Social Security purposes differs somewhat from the population area included in projections prepared by the Bureau of the Census. The Bureau of the Census prepares projections for residents of the United States including members of the Armed Forces abroad. The population for Social Security purposes also includes, in addition, residents of Puerto Rico, Guam, American Samoa, and the Virgin Islands, as well as other U.S. citizens residing abroad.

Past Experience

In order to have a better understanding of future changes in the size and age distribution of the population, it is useful to briefly review past demographic experience.

One of the most significant elements in past demographic experience has been the wide variation in the total fertility rate during this century. The total fertility rate for a given year is the average number of births that would be born to women during their lifetime if, at each year of age, they experienced the birth rates occurring in that year.

During 1917-24, the total fertility rate was more than three children per woman. During the period 1925-33 the total fertility rate declined from 3.0 to 2.2 children per woman and remained level at 2.1 to 2.2 through 1940. After 1940, the fertility rate once again began to rise. The period from the mid-1940's to the mid-1960's is generally called the baby-boom period. During this time period, the total fertility rate reached a peak of 3.7 children per woman in 1957. Following the baby-boom period, fertility rates dropped sharply. In one decade, from 1962 to 1972, the total fertility rate declined from 3.4 to 2.0 children per woman. Since the mid-1970's, the rate has been about 1.8 children per woman, with a low of 1.74 in 1976. In 1985 the total fertility rate was 1.84. Based on preliminary data, the rate for 1987 is estimated at 1.87 children per woman. Although the fertility rates since the mid-1970's have been low, the actual numbers of births are somewhat higher than they would have otherwise been because the baby-boom generation has entered the childbearing ages.

This cycle of high fertility rates followed by lower rates has created shifts in the age composition of the population. Today the baby-boom generation is part of the age group 20-44. This means we currently have a favorable demographic age composition in terms of financing programs that provide benefits for the elderly. However, if fertility remains low and net immigration is not substantially increased, then the programs providing benefits for the elderly will face large increases in cost relative to the tax base when the baby-boom generation reaches retirement age.

The other major influence on population growth is the trend in mortality rates. Mortality rates at all ages have decreased dramatically during this century. Life expectancy at birth for males has increased from 46.4 years in 1900 to 71.1 years in 1985. For females, life expectancy has increased from 49.0 years in 1900 to 78.3 years in 1985. Reductions in mortality result in more elderly people receiving benefits over a longer period, and thus the costs of Social Security and Medicare benefits become larger.

Life expectancy at age 65 increased from 11.3 years in 1900 to 14.4 years in 1985, for males, and from 12.0 years in 1900 to 18.6 years in 1985, for females.

One index of demographic pressure on the cost of these programs is the aged dependency ratio. This ratio is defined as the ratio of the number of persons aged 65 and over to the number of persons aged 20-64 and is closely related to the ratio of the number of Social Security beneficiaries to the number of workers. The aged dependency ratio increased from 0.17 in 1960 to 0.20 in 1985. Thus, in 1985, for every person in the population who was aged 65 or over, there were 5 people in the age group 20-64, as compared to 5.9 people in 1960.

Assumptions Underlying the Population Projections

The population projections in the 1988 Trustees Report are based on several assumptions. Because of the uncertainty involved in projecting such demographic characteristics as fertility rates, mortality rates, and net immigration levels, estimates are shown in the report on the basis of four alternative sets of economic and demographic assumptions, which are designated as alternatives I, II-A, II-B, and III. The economic assumptions vary over all four sets of assumptions. The demographic assumptions also vary by alternative, except that both alternatives II-A and II-B have the same demographic assumptions.

The ultimate fertility rates and immigration levels assumed in the 1988 report are shown in the following table:

Alternative	Ultimate fertility rate	Ultimate annual level of net immigration
I	2.2	750,000
II-A and II-B	1.9	600,000
III	1.6	450,000

The increases in life expectancy which have occurred in the past reflect the historical trends of steady declines in mortality rates in the United States. Mortality rates declined at an average rate of 1.2 percent per year between 1900 and 1986. Considering the potential variation in the rate of future progress in medical and health-care services, a range in the future rate of decline in mortality is assumed for these alternative projections.

Mortality rates are projected separately for ten major groups of causes of death based on analyses of data for the period 1968-85, by age group and sex for these ten major causes of death. Future declines in mortality rates will depend on such factors as the development and application of new diagnostic, surgical, and life-sustaining techniques; the presence of environmental pollutants; improvements in exercise and nutrition; the incidence of violence; the isolation and treatment of the causes of disease; the emergence of new forms of disease, such as

Acquired Immunodeficiency Syndrome, or AIDS; improvements in prenatal care; the prevalence of cigarette smoking; the misuse of drugs, including alcohol; and other changes in human behavior.

While mortality rates have been generally declining at all ages, the decline at the older ages is the most significant to any consideration of the level of health expenditures. The reduction in mortality rates for the aged is expected to continue at a relatively rapid pace, as further advances are made in the prevention and treatment of degenerative diseases, such as heart and vascular disease.

The following table shows the life expectancy at birth and at age 65 that results from the mortality rates assumed for the various alternatives in the 1988 Trustees Report:

Calendar year	Life expectancy in years			
	At birth		At age 65	
	Males	Females	Males	Females
Alternative I:				
1987	71.5	78.5	14.9	18.8
2000	70.9	78.9	15.0	18.9
2030	73.8	80.2	15.6	19.6
2060	74.7	81.0	16.1	20.3
Alternatives II-A and II-B:				
1987	71.5	78.5	14.9	18.8
2000	72.2	80.2	15.7	19.8
2030	75.8	82.3	16.7	21.1
2060	77.3	83.9	17.8	22.4
Alternative III:				
1987	71.5	78.5	14.9	18.8
2000	73.3	81.3	16.3	20.6
2030	78.6	85.0	18.6	23.1
2060	81.7	88.1	20.8	25.5

Using the intermediate assumptions for fertility, net immigration, and mortality, the future aged dependency ratio is estimated to stay around 0.2 (one person aged 65 or over for every 5 people aged 20-64) until shortly after the turn of the century. Thereafter, the ratio is projected to increase to about 0.4 (one person aged 65 or over for every 2.5 people aged 20-64), by 2030. (See Chart 1, which also shows the ratio under alternatives I and III.) The burden represented by the doubling of the aged dependency ratio, however, may overstate the total dependency burden on workers. Due to the continued low fertility rates that are assumed, the total dependency ratio (which includes children under age 20, as well as persons aged 65 and over) is projected to increase from a current level of 0.70 (one "dependent" for every 1.4 people aged 20-64) to 0.80 by (one "dependent" for every 1.25 people aged 20-64) by 2030. This reflects a much smaller increase than does the aged dependency ratio.

The growth in the population aged 65 and over will undoubtedly increase the cost of health care for the aged. Also important to the increase in future health-care costs is the aging of the elderly population itself. Over time, the proportion of the population reaching advanced ages is expected to increase. For example, the population aged 85 and over represents about 10 percent of those aged 65 and over today. However, by 2050, about 20 percent of the people aged 65 and over will be aged 85 and over, based on the intermediate assumptions. The ratio of persons aged 85 and over to those persons aged 20-64 will increase from about 2 percent today to about 8 percent by 2050, based on the intermediate assumptions. (See Chart 2, which also shows the ratios under alternatives I and III.) Because of the relatively higher health care utilization of those at ages 85 and over, this redistribution of the aged population toward more advanced age will further tend to increase health care expenditures beyond that suggested by the increases in the aged dependency ratio alone.

Conclusion

In conclusion, expected future changes in the demographic composition of the population are important in the planning and financing of government-sponsored programs, such as Social Security and Medicare. It is anticipated that programs providing benefits mainly for the elderly will begin to face rapidly increasing financial demands in about 30 years due to demographic age-composition changes. The ratio of the population aged 65 and over to the population aged 20-64 will rise rapidly in the future, because of the high birth rates during the baby-boom period, followed by lower birth rates after the 1960's. Also of particular concern to policymakers is the aging of the elderly population itself. The advancing age distribution of the elderly will put additional pressure on the financing of acute and long-term health care in the future.

CHART 1.--Ratio of Population Aged 65+ to Population Aged 20-64, 1960-2080

Actual and Projected by Alternative

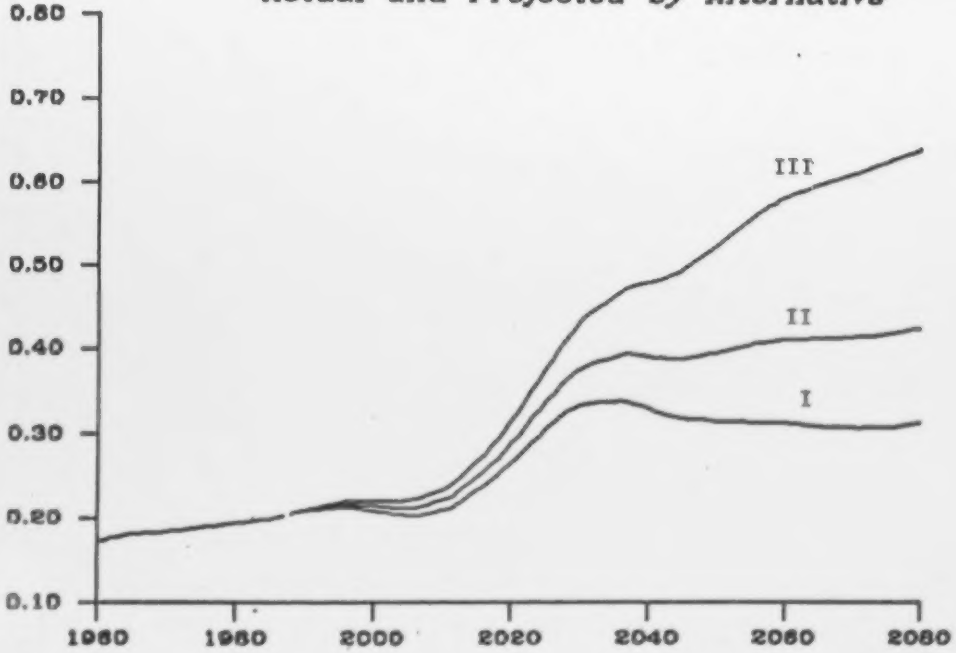
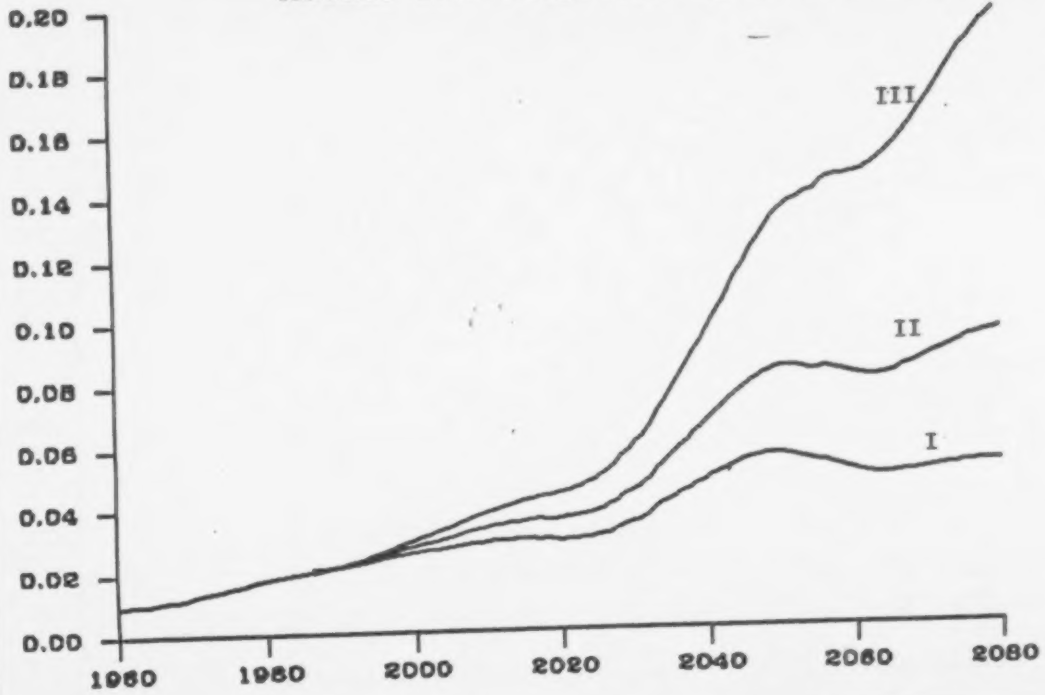


CHART 2.--Ratio of Population Aged 65+ to Population Aged 20-64, 1960-2080

Actual and Projected by Alternative



Representative **Scheuer**. Thank you very much. We will now hear from Mr. John Keane, Director of the Bureau of the Census. Let me repeat that all of your prepared statement will be printed in the record. So you might just want to chat with us informally as if we were in the living room together hitting the highlights of your testimony.

STATEMENT OF JOHN G. KEANE, DIRECTOR, BUREAU OF THE CENSUS, ACCOMPANIED BY CYNTHIA TAEUBER, CHIEF, AGE AND SEX STATISTICS BRANCH, POPULATION DIVISION

THE OLDEST OLD

Mr. **Keane**. Good morning, Mr. Chairman. Thank you for this opportunity to discuss America's oldest old population; and by "oldest old" I should define that. I'm talking about age 85 and over.

For instance, do you know that 1 in 100 Americans are 85 or older; that 1 in 10,000 are 100 years old or older; and by the middle of the next century, 1 in 4 elderly persons—that is 65 and over—are expected to be 85 or older; and the growth of the population is a worldwide phenomenon?

It is vital to recognize the fact of a rapidly growing very old population—and to understand their characteristics—so that we can plan now for our aging society.

Briefly from here on I'll cover five areas: background data, growth of the oldest old; some international demographic trends so that there's a context for ours; demographic characteristics of our oldest old; social economic characteristics of our oldest old; and finally, come to some conclusions.

Going over the background data, skimming it, at the beginning of the century, we had 100,000 or more who were 85 or older. Now there are almost 3 million. By the middle of the next century, in the neighborhood of 16 million.

We live longer, but health is not necessarily better among the oldest old. Living longer means an opportunity to get multiple chronic health problems. Half the oldest old are either in nursing homes or need help at home for personal needs. Under current policy, by the year 2000, an estimated $80 billion will be spent annually on social security, medicare, and long-term care for the population aged 80 and over.

A greater proportion of the population is reaching the oldest ages. Thus we can expect a greater proportion needing long-term care. And the growth will affect individuals, it will affect families, and of course it will affect government at all levels of government.

The second area, growth of the oldest old population. If mortality rates improve, the numbers will be higher than figures cited here. Elderly population is itself aging. Within that, the oldest old are 10 percent of the elderly population—that is last year's estimate—by the year 2000, 15 percent of the elderly population, and by the middle of the next century almost 25 percent of the elderly population will be aged 85 or older. So what we have here is this elderly population of 65 and older as a base, itself increasing very quickly. Then on top of that, this group within that increasing even more. It has to be put in that context I think to understand just how rapid the growth is, and therefore, the inferred impact of this oldest old population.

Centenarians now are about 25,000. In the year 2000, over 100,000. There's a statistic that confirms what I just cited.

The third area, some international demographic trends to put this in context. The oldest old is a small but rapidly growing population throughout the world. For many countries, the oldest old is the fastest growing portion of the older population. Now there are approximately 35 million aged 80 and over. By the year 2020, the estimate is for 101 million, almost three times. The United States and China have the highest number of octogenarians with the United States having the most.

Now nine countries have more than 1 million octogenarians. The largest number is in the developed countries. The percentage of the elderly who are 80 and over in the developed countries is 19 percent. In the developing countries, it's about half that, 11 percent.

Representative **Scheuer**. Which of the developed countries has the highest percentage of its populations over 80 or 85?

Mr. **Keane**. Sweden.

Representative **Scheuer**. How about Japan?

Mr. **Keane**. High, but not as high. It has the highest life expectancy in the world today. For females born today, it's approximately 81 years.

Demographic characteristics of the U.S. oldest old, 7 of 10 persons are women. Men tend to suffer disproportionately from diseases that kill rather than from chronic nonlethal diseases from which women suffer.

The gap in male-female longevity is related to problems of women 85 and older, such as a higher proportion of older women who live alone, earlier institutionalization of women than of men, sharply reduced incomes after death of a spouse, disproportionately higher rates of poverty.

Race and ethnic composition, there's contrast there. Predominantly white population makes up the oldest old, but there is a very rapid growth of the black and Hispanic oldest old population.

Of the foreign born, about one in five persons of the oldest old are foreign born. About one in three who speak a language other than English have difficulty speaking English. Judging by the language now spoken in their late sixties that our surveys show, Spanish will be the dominant non-English language spoken by the oldest old by the year 2000.

Switching to social and economic characteristics, first, marital status and living arrangements. With advancing age, changes are most dramatic for women. Women are likely to be widowed far more than men—82 percent versus 48 percent. Men are likely to be in a family setting, almost 2 to 1—59 percent versus 37 percent. Women are more likely to live alone than men.

An increasing proportion is institutionalized in both groups. This is partially a result of more people living longer, but also with worsening health and also of a tendency to live alone.

For the future we can expect more married couples as male longevity improves.

The population distribution and migration patterns. As a result of migration and population to the Sun Belt, these areas of destination should anticipate demand for services for the oldest old. Half of the oldest old live in just nine States.

On educational attainment, about one-third of the oldest old have at least a high school education. We can expect this proportion to increase over time. Improvements are meaningful because educational attainment is so closely connected with health and economic status. For example, the oldest old with less than 8 years of education have the highest levels of physical impairments. That reminds me of Aristotle's sage observation that education is the best provision for old age.

Conclusions—this oldest old population should be thought of as quite a heterogeneous population. The differences have implications for their well-being and as a result they have implications for public policy. Tomorrow's oldest old population will have different characteristics from today. Improved educational attainment may be quite significant. Far more of us will reach the oldest ages. How we and our children care for ourselves in our old age will be determined in part by our actions today.

We expect that the extension of life will result in ever-larger numbers of economically and physically vigorous, very old people, as well as large numbers of chronically ill dependent persons. If services continue at present levels, we can expect real government expenditures for the elderly to continue to grow as a result of demographic pressures. The coming demographic changes imply that either more money will be spent to maintain present programs or that benefit levels will be reduced, or that the elderly will themselves pay a greater proportion of their care than at present.

To monitor adequately the dramatic changes requires a sophisticated statistical system and study of the experience of other industrialized nations. The growing very old population is a virtual certainty. If we anticipate and plan now for all age groups, individuals and families will be able to adjust their expectations and to plan for their futures. The magnitude of the changes can be foreseen to some extent and presents a challenge to adapt public policy far enough in advance to be successful.

[The prepared statement of Mr. Keane follows:]

PREPARED STATEMENT OF JOHN G. KEANE

AMERICA'S OLDEST OLD POPULATION
THEIR DEMOGRAPHIC, SOCIAL AND
ECONOMIC CHARACTERISTICS

INTRODUCTION

Mr. Chairman, thank you for this opportunity to appear before you today to discuss America's population 85 years and over, the "oldest old" population.*

Mr. Chairman, did you know that:

- One in 100 Americans are 85 or older.
- One in 10,000 are centenarians -- 100 years or older.
- By the middle of the next century, 1 in 4 elderly persons are expected to be 85 years or older.
- And, growth of the oldest old population is a world-wide phenomenon.

I think it is vital to recognize the fact of a rapidly growing very old population -- and to understand their characteristics -- so that we can plan now for our aging society.

BACKGROUND

At the beginning of the century, there were just over 100,000 persons aged 85 and over. Now there are almost 3 million. By the middle of the next century there could be more than 16 million (Figure 1, Table 1).

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* The materials presented here are excerpted from "A Demographic Portrait of America's Oldest Old," by Cynthia M. Taeuber, (U.S. Bureau of the Census) and Ira Rosenwaike (University of Pennsylvania), chapter to be published in The Oldest Old, edited by Richard Suzman and David Willis, Oxford Press, 1988.

They are a small proportion of our population -- just over 1 percent now -- but already they have had a major effect on the nation's health care and social service systems. Longer life has not necessarily translated into better health as more people now live long enough to face multiple, chronic illnesses. Nearly half of the oldest old have health problems serious enough that either they must live in a nursing home or they need help at home to take care of their basic personal needs. The remaining half live more independently. One estimate is that under current policy, by the year 2000, the federal government will spend over $80 billion on Social Security, Medicare, and long-term care for the population aged 80 and over.

Other researchers such as Jack Feldman, National Center for Health Statistics, and Dorothy Rice have said that it is likely that expensive health problems will increase as the population continues to age. Thus, as a larger proportion of our population reach the oldest ages, the eventual need for long-term care can be anticipated for an increasingly larger part of the American population.

GROWTH OF THE OLDEST OLD POPULATION

Overall, those 85 and over are projected to be the fastest growing part of the older population into the next century. This is true for most other industrialized nations as well. Between the 1960 and 1980 censuses, the oldest old increased 141 percent in the United States, compared with an increase of 54 percent for the population 65 years and over, and 26 percent for the total population.

It must be pointed out, however, that while the growth rates of the oldest old sound spectacular and are important, the size of the population 85 years and over is relatively small. The important point is not their percentage growth but that they are an increasingly large part of the elderly population and as such, individuals, families, and governments have begun to give more thought to planning for the well-being of this group. In 1987, the oldest old were nearly 10 percent of the elderly population, and by 2000, they could be almost 15 percent. By 2050, the 85-and-over population is expected to be almost one-fourth of the elderly population. That is, the elderly population is itself aging as an increasing proportion reach the oldest ages. For example, from 1970 to 1982, the number of persons aged 95 and over almost tripled (Table 2). If mortality rates improve among the oldest old, the proportions I cite here will be low.

The nation is also experiencing a steady growth in the number of people aged 100 years or more. There are over 25,000 centenarians now, and by the year 2000, centenarians are projected to number over 100,000. Centenarians constitute only about 1 in 10,000 persons in the total population. The chances of living to age 100 have improved. For those born in 1879, the odds against living 100 years were 400 to 1. Based on the mortality rates of 1979-81, persons born in 1980 had odds of 87 to 1.

Historically, the number of persons aged 85 and over has increased because of past fertility levels. In addition, between 1940 and 1980, death rate declines at the older ages have been as large or larger than those at younger ages, resulting in unprecedented numbers of persons reaching extreme old age. A sharp downturn in mortality from cardiovascular disease is largely responsible for declining death rates among the oldest old.

Death before the mid-60's is relatively uncommon now within the general population. In 1980, almost 70 percent of all deaths occurred among people aged 65 or older compared with 25 percent in 1900. Nearly one in four of those who were age 65 in 1980 could expect to survive to at least age 90, compared with one in eight in 1950 (Fig. 2). By the end of this decade, about half of all 60-year-old women can expect to live to at least age 85. For 60-year-old men, the chance of living to age 85 is about one in four. Those who live to age 85 can expect to live an additional 5 to 7 years depending on their race and sex (Table 3).

INTERNATIONAL DEMOGRAPHIC TRENDS

There are an estimated 35 million people in the world aged 80 and over (no world-wide data are available for the population 85 years and over). That number is projected to increase to 101 million by 2020. Persons 80 years and over constitute 19 percent of the elderly in developed countries and 11 percent in developing nations. While the majority of octogenarians live in developed countries now, it is projected that by 2020, the majority will live in developing countries. For many countries, the 80-and-over age group will be the fastest growing portion of the elderly population at least through the middle of the next century.

Shortly after the turn of the century (2005), 31 percent of elderly Americans will be 80 or older, which we project will be the highest proportion in the world. In 1985, the United States had the highest number of persons aged 80 and over in the world (6.2 million), followed closely by China with 5.7 million. Seven additional countries had more than one million octogenarians (Table 4). By 2025, this list is expected to include nine additional countries, six of which are developing countries (Table 5). In some developing countries, the number of the oldest old in 2025 will have increased tenfold since 1975, which highlights what these countries may have to consider in planning support services for this burgeoning population group.

Let me re-emphasize here that while the oldest-old population is relatively small, it is growing rapidly throughout the world. Many individuals will have experience with the very old, many of whom will lose their economic and physical independence and who will need services. Unless there are a series of extraordinary medical breakthroughs that prevent chronic illness, from our demographic information I can predict with some confidence that an increasingly larger proportion of our population will need long-term care. With that prediction in mind, let me describe some of the demographic, social, and economic characteristics of the oldest old population.

GENDER

Perhaps no feature of the oldest old is as unique as the relative numbers of males and females. Seven out of ten (71.4 percent) persons aged 85 years and over are women (Table 6). By 2050, 3 percent of the male population could be 85 or older but 7 percent of the total female population could be so old.

The excess of oldest old females in the Black population could be greater than in the White population (Table 7).

The male/female gap in life expectancy is related in varying degrees to problems for women 85 years and over. A high proportion live alone after widowhood; females are institutionalized earlier than men; their incomes are sharply reduced and they have disproportionately higher levels of poverty. These factors demonstrate a need for special support. As men age, they suffer disproportionately from diseases that kill rather than the chronic, non-lethal diseases from which older women tend to suffer.

RACE AND ETHNIC COMPOSITION

The oldest old population is heterogeneous. They have carried into their old age the differences created previously in their life cycles, particularly through their educational and labor market experiences as younger people.

The oldest old population is predominantly White. Out of a total of 2.2 million persons who were 85 or older in 1980, more than 2 million were White; 159,000 were Black; 5,900 were American Indian, Eskimo, or Aleut; and 13,900 were Asian or Pacific Islander.

The Black population is "younger" on average than the White population. But among the oldest old, the Black population, especially females, is projected to grow faster than the White oldest old. While the White population 85 years and over in 2050 is expected to be more than five times what it was in 1985, the Black oldest old population is expected to experience nearly a ten-fold increase (Table 7).

The increasing proportion of the population in the extreme ages has implications for the magnitude of family support and problems in caring for the elderly over time. The ratio of persons 85 years and over to persons 65 to 69 years (used as an estimate of two elderly generations although they are not necessarily in the same families) is rising for both Blacks and Whites. For all races, the ratio will more than double from 1980 to 2010 (Table 8). The experience and problems of the "young old" caring for the oldest old will become more and more familiar throughout society.

FOREIGN-BORN POPULATION

In 1980, the foreign born constituted 6 percent of the total United States population, about 8 percent of the population aged 65 to 69 years, but almost 19 percent of the 85-and-over population.

Inability to speak English can be a particular difficulty for the oldest old. In 1980, of those foreign born who speak a language other than English at home, about 1 out of 3 reported that they could not speak English at all or not well. Judging by the language spoken at home in 1980 of persons aged 65 to 69, Spanish will be the dominant non-English language spoken by the oldest old in the year 2000.

The proportion of the population 85 and over that is foreign born varies markedly by geographic region. The Northeastern states tend to have higher proportions and the Southern states lower proportions. More than 30 percent of the oldest old in Connecticut, Massachusetts, New Jersey, New York, and Rhode Island were of foreign birth compared with less than 2 percent of the oldest residents of Alabama, Arkansas, Georgia, Kentucky, Mississippi, and North Carolina.

MARITAL STATUS AND LIVING ARRANGEMENTS

With advancing age, patterns of marital status and living arrangements shift considerably. The general course is the same for both men and women but is much more dramatic among women. Women 85 years and over are likely to be widowed and living alone while men are more likely to be married and living in a family setting.

Marital Status

Almost half (48 percent) of all men aged 85 and over were married at the time of the 1980 census, compared with only 1 of every 12 women (Table 10). The oldest old of both sexes were much less likely to be married than the young old. A majority (55 percent) of women aged 65 to 69 years, for example, were married, as were 4 out of 5 (83 percent) men. The vast majority (82 percent) of women 85 and over were widowed in 1980, compared with only about one-third of those aged 65 to 69 years.

As a result of increased longevity, we can expect that in the future a higher proportion of oldest-old persons, especially women, will be married. The 1980 census was the first to show that more oldest-old males were married than widowed. About 54 percent of all males 85 to 89 years of age in 1980 were married, compared with only about 38 percent of those aged 90 or older. Among centenarians, over one-fifth of the men were married.

Living Arrangements

Marital status variations are important in accounting for differences in living arrangements of older men and women. Because older males are much more likely to still be married than are females, they are more likely to live in a family setting. In 1980, a majority of all males aged 85 and older (59 percent) lived in families, compared with just over one-third of females (37 percent) in this age group (Table 10).

Roughly half (45 to 55 percent in 1980) of centenarians lived in group quarters, usually nursing homes. Women were more likely to live in an institutional setting than men. Over one-third of centenarians owned or rented their residence compared with more than two-thirds of those aged 85 to 99.

In 1980, almost 36 percent of all women aged 85 years and over lived in single-person households, or in households with nonrelatives, an increase from the 29 percent recorded in 1970. Along with this trend toward independent living among the oldest old, there has been a sharp decline in the proportion of both elderly males and females who live in a household with relatives other than a spouse (usually their children).

In 1950, 32 percent of all men aged 85 years and over who lived outside of group quarters lived in a household maintained by a son, a daughter, or their child's spouse. The proportion plummeted to only 9 percent in 1980. For women, the proportion changed from 47 percent in 1950 to 18 percent in 1980. Centenarians in households lived with their adult children (29 to 42 percent in 1980) more often than those aged 85 to 99 years.

Institutional Population

More than half a million persons aged 85 years or older live in institutional settings. Over half (276,000) were 85 to 89 years old.

There has been a remarkable increase since at least 1950 in the percentage of the oldest old residing in institutions while the pattern among the younger old has remained stable (Table 11). It is likely that this is at least partially a result of (1) more people living longer but with worsening health at the oldest ages and (2) the tendency to live alone.

More information on the characteristics of the oldest-old population in institutions is provided in Tables 12 and 13. Let me turn now to the distribution of the oldest-old population across the country and their social and economic characteristics.

POPULATION DISTRIBUTION AND MIGRATION PATTERNS

About half (51.2 percent) of the nation's 2.9 million oldest old population lived in just nine states (Table 14) in 1987: California (282,000); New York (235,000); Florida (179,000); Pennsylvania (159,000); Texas (151,000); Illinois (140,000) Ohio (130,000); Michigan (99,000); and New Jersey (90,000). In most states, about one to two percent of the population is 85 or older (Table 15). The pattern of population redistribution among regions for the oldest old is similar to that of all age groups: the proportion of oldest old living in Northern states has decreased and increased in the South and the West.

Regional relocation of the elderly to the South and West has been occurring among the younger elderly since the 1960s and among the older elderly since the 1970s. Those who moved as young elderly and who have survived are now among the older elderly of each area. As a result, the areas of destination for elderly migrants should anticipate a demand for the types of services people need as they age. (Table 16 provides additional information on migration).

SOCIOECONOMIC STATUS

Overall, there have been marked improvements in the educational and economic status of the oldest old during the last several decades. But there are extreme differences among groups within the oldest old population. They are heterogeneous along educational and economic lines as are other age groups. Economic differences were carried into old age from activities throughout the life cycle, especially from the labor market.

Differences that grow with advancing age are related particularly to health status and the availability of private pensions and investments that can supplement government retirement pensions and benefit programs.

The educational status of older persons has improved as better-educated cohorts have replaced less-well-educated cohorts. Such changes are meaningful because educational level is so closely connected with economic status, health status, and functional needs over one's lifetime. Research has shown, for example, that the oldest old with less than 8 years of education have the highest levels of moderate or severe physical impairments. The oldest old may be better off in the future in terms of the proportion with severe physical impairments if the connection between health and educational attainment continues. In 1980, about 30 percent of the oldest old had at least a high school education. Future generations of oldest old will have much higher levels of educational attainment; e.g., about 45 percent of those aged 65 to 69 years in 1980 had at least a high school education (Table 10) although this ranged among the states from 17 percent in Utah to 57 percent in Kentucky (Table 17).

Participation in the labor force can make a major difference in economic status. In 1980, only 4 percent of males 85 years and older were still in the labor force, down from 7 percent a decade earlier. Labor force participation among women was about half that for men (Table 10).

The 85-and-over population is a more heterogeneous group economically than previously believed. For example, the economic situation for an 85-year old married couple is generally different from that of an 85-year old woman living alone.

In terms of median income for the population 85 and over, median money income for women increased in real terms from $2,300 in 1969 to $3,300 in 1979. For men, the increase was from $3,300 to $4,800. Eighty-three percent of males 85 years and over had incomes in 1979 of less than $10,000 compared with 92 percent of women, 95 percent of Black males, and 98 percent of Black females (Table 18). The data in Table 18 demonstrate the disparity in income levels between older males and females, especially Black females.

Variation in economic status among the oldest old is even more apparent when poverty is considered. According to the 1970 census, about 37 percent of the oldest old were poor. This fell to 21 percent in 1980. But the rate varies considerably by sex, race, and living situation. Those living alone, especially oldest old Black females, have significantly higher rates of poverty than those in families. As shown in Figure 3, poverty rates in 1979 for the oldest old ranged from a low of 8 percent for all women living in families to a high of 73 percent for Black women living alone.

Geographically, there are considerable differences in the economic status of the oldest old. In three states, Missouri, Wisconsin, and Wyoming, more than 40 percent of the oldest old were poor. By contrast, only 10 percent were poor in California. In 1980 in Mississippi, a state with relatively high poverty levels among the oldest old, two-thirds of women 85 and over who lived alone were poor as were over one-fifth of the oldest old women who lived in families. California's oldest old had lower poverty rates than most states with 23 percent of those who lived alone poor compared with 5 percent in families.

Another factor in economic variations is the source of income. About 72 percent of all oldest males, 89 percent of all women, 83 percent of Black males, and 93 percent of Black women received less than $4,000 in 1979 from Social Security (Table 19).

CONCLUSION

A growing, very old population is a reality in America. Previous fertility patterns as well as dramatic improvements in life expectancy will result in a larger number and proportion of persons aged 85 years or older than the United States has ever experienced. As a nation, we will be much "older" in the next century. Consequently, the nature of American society will be vastly different from today's. High proportions of very old persons relative to the number of productive workers could have profound social and economic consequences at least through the middle of the next century. But these demographic conditions represent only one factor among many that will influence future economic prospects. The growth of the oldest old population is a virtual certainty. That knowledge is useful in planning for the effect of an older age structure on all age groups, as well as for devising ways to accommodate and care for this burgeoning group.

There are considerable differences within the oldest old population and between the younger old and the oldest old in terms of their numbers, educational attainment, and lifetime economic experience. All of these factors have implications for the well being of the older population.

We need to be aware of the differences within and among age groups and of the implications of those differences as public policy for the older population is designed. As shown here, the population 85 years and over is demographically, socially, economically, and physically a heterogeneous population.

Throughout my testimony, I have mentioned two themes about the characteristics of the oldest old population which bear repeating here: (1) the majority of the population is female; and (2) there have been and will continue to be marked improvements in educational attainment within this population.

Two major fears about old age concern health and economic status. We expect the extension of life to result in even larger numbers of economically and physically vigorous very old people along with large numbers of chronically ill, dependent persons. About half of the oldest old population are healthy enough that they do not need significant assistance in the activities of daily life, while the other half are dependent on family or society.

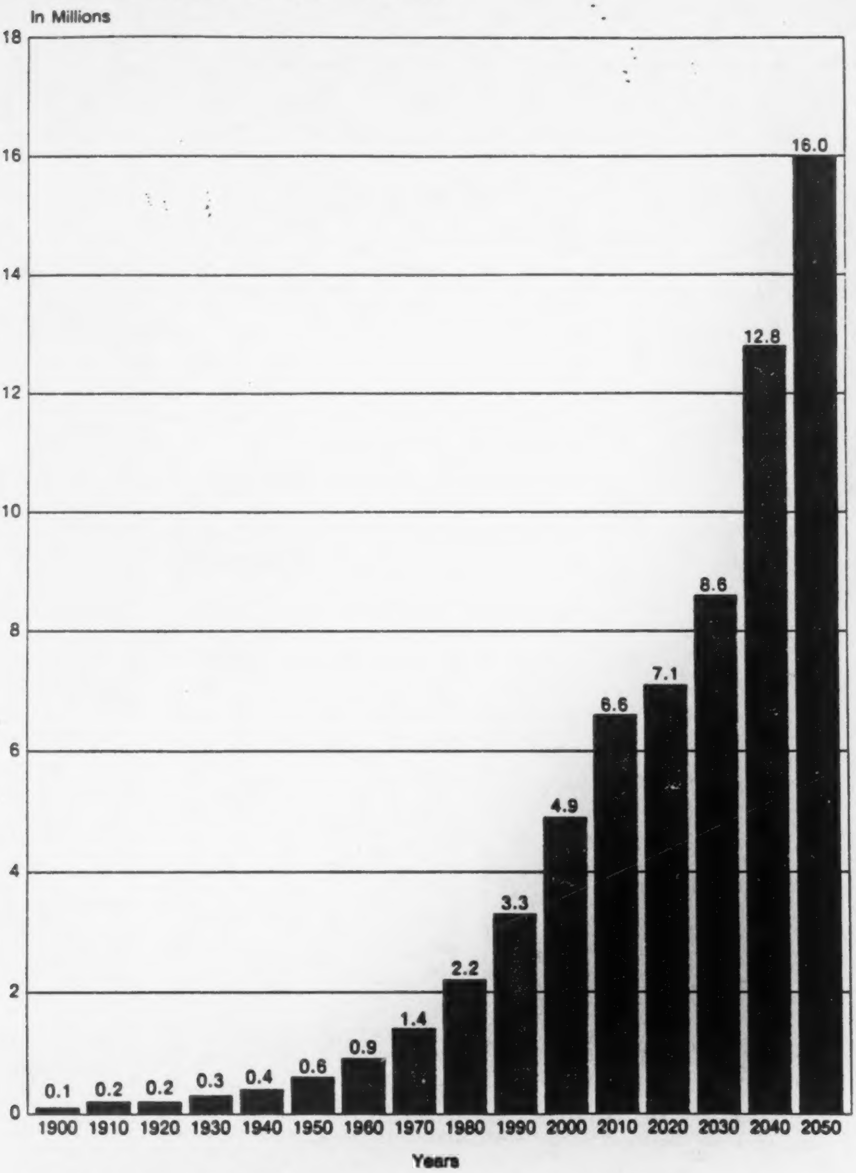
If services continue at their present levels, real government expenditures for the elderly can be expected to continue to grow as a result of demographic pressures. The coming demographic changes imply that either more money will be spent to maintain present programs or that benefit levels will be reduced. In the past, the cost of programs for the elderly have been borne mostly by the working-age population, and the future changes in age structure will further increase the proportionate burden on the working-age population unless there are significant policy changes.

We often think of aging only in terms of people who are already in the older age groups. But more and more of us will reach the oldest ages. How we and our children will care for ourselves in our old age will be determined in part by many of our actions today.

Once the very large baby-boom generation reaches the oldest old ages from 2030 to 2050, America will be presented with a novel situation. We can only try to anticipate some of the problems and solutions that will ultimately evolve. To monitor adequately the dramatic changes requires a sophisticated statistical system and study of the experience of other industrialized nations. America is an aging society. If we anticipate and plan now for all age groups, individuals and families will be better able to adjust their own expectations and plan for their futures. The magnitude of the change can be foreseen to some extent and presents a challenge to adapt public policy far enough in advance to be successful.

Figure 1

Population 85 Years and Over: 1900-2050



Source: U.S. Bureau of the Census, Decennial Censuses for specified years; and "Projections of the Population of the United States, 1982 to 2080," P-25, No. 952, 1984, Middle Series.

Figure 2

Percent of Those Age 65 Expected to Survive to Age 90

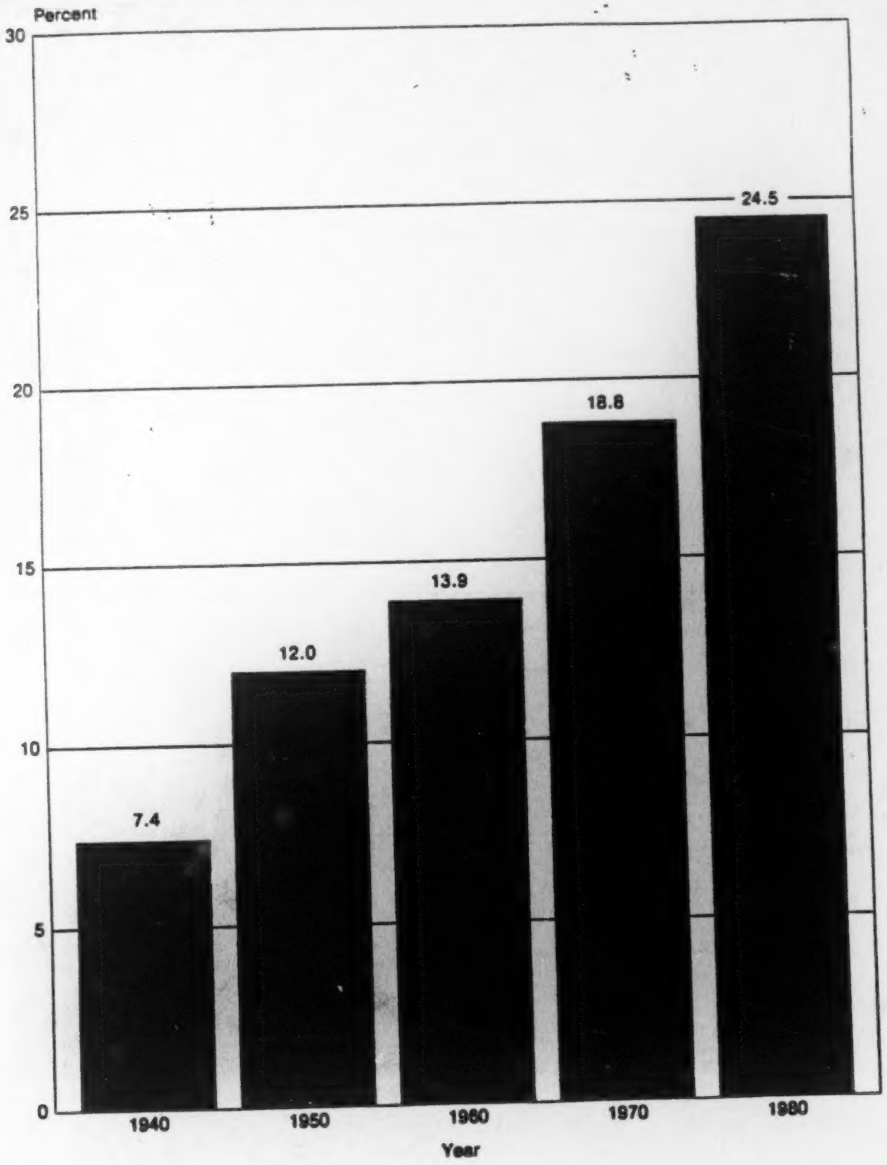
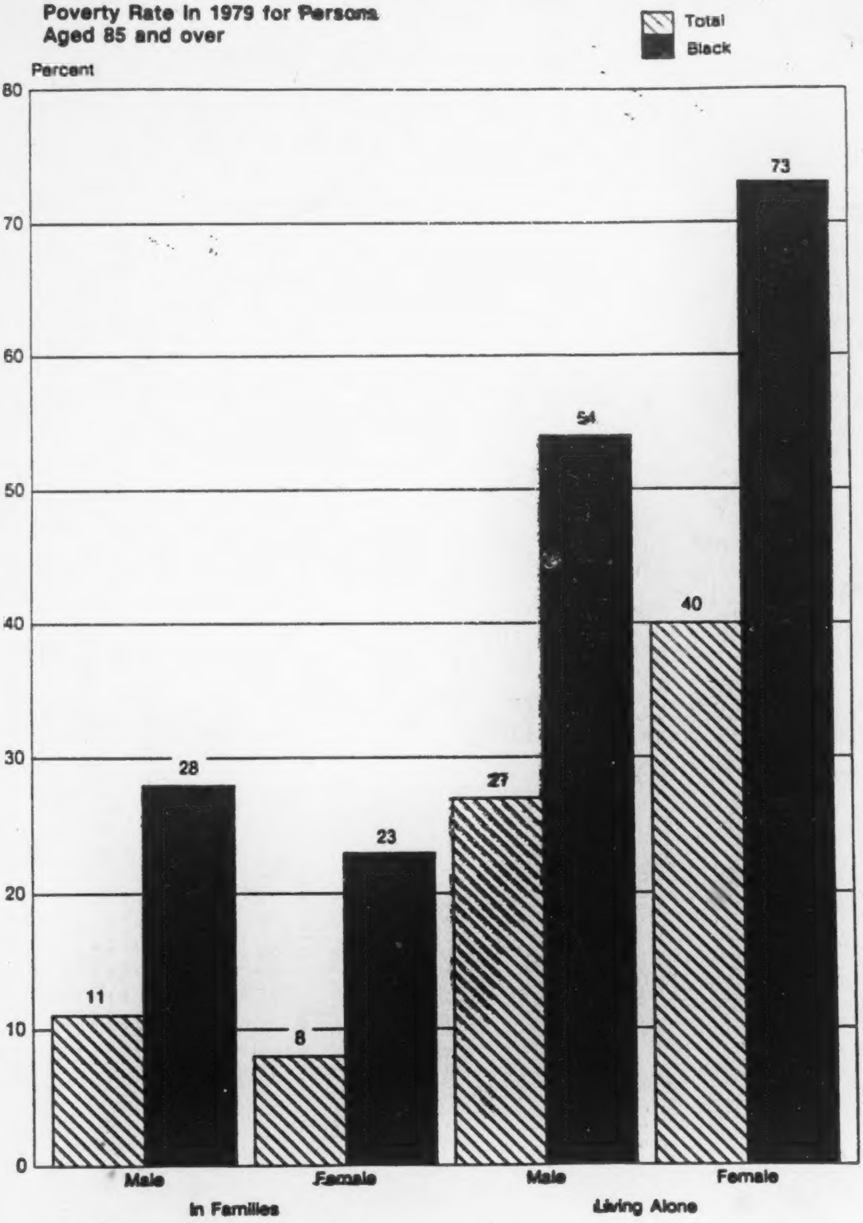


Figure 3

Poverty Rate in 1979 for Persons Aged 85 and over



Source: U.S. Bureau of the Census, Special NIA tabulations from the 1980 Census. See Table 6

Table 1. Growth of the Older Population, Actual and Projected: 1900-2050
(Numbers in thousands)

YEAR	Total (all ages) Number	50-54 Number	50-54 Percent	55-64 Number	55-64 Percent	65-74 Number	65-74 Percent	75-84 Number	75-84 Percent	85+ Number	85+ Percent	65+ Number	65+ Percent
1900	75,995	2,943	3.9	4,003	5.3	2,187	2.9	771	1.0	122	0.2	3,080	4.1
1910	91,972	3,901	4.2	5,054	5.5	2,793	3.0	989	1.1	167	0.2	3,949	4.3
1920	105,711	4,735	4.5	6,532	6.2	3,464	3.3	1,259	1.2	210	0.2	4,933	4.7
1930	122,775	5,976	4.9	8,397	6.8	4,721	3.8	1,641	1.3	272	0.2	6,634	5.4
1940	131,669	7,255	5.5	10,572	8.0	6,376	4.8	2,278	1.7	365	0.3	9,019	6.8
1950	150,216	8,175	5.4	13,173	8.8	8,404	5.6	3,275	2.2	577	0.4	12,256	8.2
1960	179,323	9,606	5.4	15,572	8.7	10,997	6.1	4,634	2.6	929	0.5	16,560	9.2
1970	203,212	11,104	5.5	18,590	9.1	12,435	6.1	6,119	3.0	1,511	0.7	20,065	9.9
1980	226,546	11,710	5.2	21,703	9.6	15,581	6.9	7,729	3.4	2,240	1.0	25,550	11.3
1987	243,915	10,927	4.5	22,019	9.0	17,668	7.2	9,301	3.8	2,867	1.2	29,836	12.2
MIDDLE SERIES (Middle fertility, mortality, and immigration assumptions) 1/													
1990	249,657	11,422	4.6	21,051	8.4	18,035	7.2	10,349	4.1	3,313	1.3	31,697	12.7
2000	267,955	17,356	6.5	23,767	8.9	17,677	6.6	12,318	4.6	4,926	1.8	34,921	13.0
2010	283,238	21,424	7.6	34,848	12.3	30,218	10.7	12,326	4.4	6,551	2.3	39,195	13.8
2020	296,597	18,621	6.3	40,298	13.6	29,855	10.1	14,486	4.9	7,081	2.4	51,422	17.3
2030	304,807	17,307	5.7	34,025	11.2	34,535	11.3	21,434	7.0	8,612	2.8	64,581	21.2
2040	308,559	19,887	6.4	34,717	11.3	29,272	9.5	24,882	8.1	12,834	4.2	66,988	21.7
2050	309,488	18,439	6.0	37,327	12.1	30,114	9.7	21,263	6.9	16,034	5.2	67,411	21.8
HIGHEST SERIES (Low fertility, mortality, and immigration assumptions result in higher number of elderly) 2/													
1990	254,122	11,502	'4.5	21,189	8.3	18,182	7.2	10,428	4.1	3,380	1.3	31,990	12.6
2000	281,542	17,643	6.3	24,212	8.6	18,113	6.4	12,747	4.5	5,386	1.9	36,246	12.9
2010	310,006	22,252	7.2	35,970	11.6	21,171	6.8	13,140	4.2	7,756	2.5	42,067	13.6
2020	340,762	19,791	5.8	42,537	12.5	31,554	9.3	15,762	4.6	9,016	2.6	56,332	16.5
2030	369,775	18,737	5.1	36,804	10.0	37,400	10.1	23,770	6.4	11,418	3.1	72,588	19.6
2040	398,521	22,758	5.7	38,373	9.6	32,564	8.2	28,426	7.1	17,568	4.4	78,558	19.7
2050	427,900	22,717	5.3	44,048	10.3	34,246	8.0	25,063	5.9	23,416	5.5	82,725	19.3
LOWEST SERIES (High fertility, mortality, and immigration assumptions result in lowest number of elderly) 3/													
1990	245,753	11,342	4.6	20,910	8.5	17,925	7.3	10,226	4.2	3,201	1.3	31,352	12.8
2000	256,098	17,082	6.7	23,326	9.1	17,290	6.8	11,487	4.6	4,444	1.7	33,621	13.1
2010	261,482	20,872	8.0	33,836	12.9	19,525	7.5	11,537	4.4	5,486	2.1	36,548	14.0
2020	262,695	17,824	6.8	38,648	14.7	28,332	10.8	13,271	5.1	5,532	2.1	47,135	17.9
2030	257,443	16,371	6.4	32,023	12.4	32,286	12.5	19,310	7.5	6,490	2.5	58,086	22.6
2040	246,459	17,323	7.0	32,090	13.0	26,778	10.9	21,947	8.9	9,391	3.8	58,116	23.6
2050	232,222	14,953	6.4	31,335	13.5	27,008	11.6	18,241	7.9	11,088	4.8	56,337	24.3

Note--Figures for 1900 to 1950 exclude Alaska and Hawaii.

1/ Assumes a total fertility rate of 1,900, life expectancy at birth in 2050 of 75.5 years for males and 83.6 years for females and net migration of 450,000 per year.

2/ Assumes a total fertility rate of 1,600, life expectancy at birth in 2050 of 78.6 years for males and 87.8 years for females and net migration of 250,000 per year.

3/ Assumes a total fertility rate of 2,300, life expectancy at birth in 2050 of 72.9 years for males and 80.5 years for females and net migration of 750,000 per year.

Source: U.S. Bureau of the Census. 1980 Census of Population, PC80-B1, General Population Characteristics, Tables 42 and 45; "United States Population Estimates, by Age, Sex, and Race: 1980 to 1987," Current Population Reports, Series P-25, No. 1022; "Projections of the Population of the United States by Age, Sex, and Race: 1983 to 2080," Current Population Reports, Series P-25, No. 952, Washington, D.C.: U.S. Government Printing Office, 1984.

Table 2. Persons 85 Years and Over in the Medicare Program, by Age and Sex: 1970, 1976, 1982

Age	Medicare population*			Percent increase	
(years)	1970	1976	1982	1970-76	1976-82
TOTAL					
85 and over	1,378,523	1,852,445	2,458,931	34.4	32.7
85-89	1,021,434	1,319,359	1,683,001	29.2	27.6
90-94	294,270	429,276	606,479	45.9	41.3
95 and over	62,819	103,810	169,451	65.2	63.2
MALE					
85 and over	470,830	584,987	717,523	24.2	22.6
85-89	359,259	428,875	511,654	19.4	19.3
90-94	93,258	128,392	163,786	37.7	27.6
95 and over	18,313	27,720	42,083	51.4	51.8
FEMALE					
85 and over	907,693	1,267,458	1,741,408	39.6	37.4
85-89	612,175	890,484	1,171,347	34.5	31.5
90-94	201,012	300,884	442,693	49.7	47.1
95 and over	44,506	76,090	127,368	71.0	67.4

*Persons shown in tabulations as 120 years and over have been excluded.

Source: Social Security Administration and Health Care Finance Administration (unpublished tabulations)

Table 3. Life Expectancy at Age 85 by Sex and Race: 1900-1985

Year	AVERAGE NUMBER OF YEARS OF LIFE REMAINING			
	White male	Other male	White female	Other female
1900-02........	3.8	4.0	4.1	5.1
1909-11........	3.9	4.5	4.1	5.1
1919-21........	4.1	4.5	4.2	5.2
1929-31........	4.0	4.3	4.2	5.5
1939-41........	4.0	5.1	4.3	6.4
1949-51........	4.4	5.4	4.8	6.2
1959-61........	4.3	5.1	4.7	5.4
1969-71*.......	4.6	6.0	5.5	7.1
1979-81*.......	5.1	5.7	6.3	7.2
1985*..........	5.1	5.9	6.4	7.0

* Deaths of nonresidents of the U.S. were excluded beginning in 1970.

Source: 1900-1971 from Vital Statistics of the United States 1978, Volume II-Section 5, Life Tables. 1979-81 from U.S. Decennial Life Tables for 1979-81, Volume I, No. 1, U.S. Life Tables. 1985 from unpublished tables from NCHS.

Table 4. Countries With More Than 1 Million Octogenarians in 1985

(Numbers in thousands)

Country	Population aged 80 and over	Country	Population aged 80 and over
United States	6,198	Germany (Fed. Rep.)	1,951
China	5,697	France	1,741
Soviet Union	4,610	United Kingdom	1,732
India	2,913	Italy	1,436
Japan	2,000		

Table 5. Countries Projected to Have More Than 1 Million Octogenarians in 2025

(Numbers in thousands)

Country	Population aged 80 and over	Country	Population aged 80 and over
China	25,208	United Kingdom	2,211
India	16,435	France	2,111
United States	14,348	Mexico	1,894
Soviet Union	9,966	Spain	1,491
Japan	6,531	Poland	1,243
Brazil	3,672	Canada	1,235
Indonesia	3,324	Nigeria	1,135
Germany (Fed. Rep.)	2,855	Turkey	1,043
Italy	2,485	Argentina	1,002

Source of Tables 4 and 5: United Nations, 1986, unpublished data from the 1984 Assessment of World Population Prospects; and U.S. Bureau of the Census, Center for International Research.

Table 6. Balance of Males and Females 85 Years and Over

(Sex ratio is males per 100 females 85 years and over.)

Year	Sex ratio	Excess of females
1930	75.4	38,000
1940	75.0	52,000
1950	69.8	109,000
1960	63.9	197,000
1970	53.3	426,000
1980	43.7	877,000
2030	40.2	3,669,000
2050	42.6	6,461,000

SOURCE: U.S. Bureau of the Census. Censuses of Population, 1930-1980; Current Population Reports, Series P-25, No. 952, (Middle Series).

Table 7. Population by Age and Race: 1985-2050
(Numbers in thousands)

	ALL RACES				BLACK			
	1985	2010	2030	2050	1985	2010	2030	2050
Both Sexes								
All ages	239,283	283,238	304,807	309,488	29,012	40,033	47,598	52,297
65 years and over	28,530	39,195	64,581	67,411	2,343	3,559	7,305	9,227
85 years and over	2,711	6,551	8,612	16,034	205	541	831	1,964
Percent 85 and over	1.1	2.3	2.8	5.2	0.7	1.4	1.7	3.8
Percent of 85 and over who are Black	(x)	(x)	(x)	(x)	7.6	8.3	9.6	12.2
Males								
All ages	116,649	138,029	147,905	149,419	13,790	19,145	22,818	25,051
65 years and over	11,529	15,609	26,934	27,477	940	1,250	2,828	3,633
85 years and over	773	1,791	2,471	4,786	65	136	202	545
Percent 85 and over	0.7	1.3	1.7	3.2	0.5	0.7	0.9	2.2
Percent of 85 and over who are Black	(x)	(x)	(x)	(x)	8.4	7.6	8.2	11.4
Females								
All ages	122,634	145,209	156,902	160,070	15,222	20,888	24,780	27,246
65 years and over	17,002	23,588	37,645	39,934	1,403	2,307	4,477	5,593
85 years and over	1,938	4,761	6,140	11,247	140	404	629	1,419
Percent 85 and over	1.6	3.3	3.9	7.0	0.9	1.9	2.5	5.2
Percent of 85 and over who are Black	(x)	(x)	(x)	(x)	7.2	8.5	10.2	12.6
Ratio (Males per 100 Females)								
All ages	95.1	95.1	94.3	93.3	90.6	91.7	92.1	91.9
65 years and over	67.8	66.2	71.5	68.8	67.0	54.2	63.2	65.0
85 years and over	39.9	37.6	40.2	42.6	46.4	33.7	32.1	38.4

Source: U.S. Bureau of the Census, "Estimates of the Population of the United States by Age, Sex, and Race: 1980 to 1985," Current Population Reports, Series P-25, No. 985, Table 1 (total population including Armed Forces overseas); also, "Projections of the Population of the United States by Age, Sex, and Race: 1983 to 2080," Current Population Reports, Series P-25, No. 952, Table 6 (Middle Series), Washington, D.C.; U.S. Government Printing Office, 1984.

Table 8. Familial-Aged Dependency Ratios
(Number of persons 85 years and over per 100 persons aged 65-69 years)

Year	All races	Black
1950	12	11
1960	15	14
1970	22	19
1980	26	20
2010	56	49
2030	47	35
2050	96	77

Source: U.S. Bureau of the Census, Censuses of Population 1950 to 1980; "Projections of the Population of the United States by Age, Sex, and Race: 1983 to 2080," Current Population Reports, Series P-25, No. 952, U.S. Government Printing Office, Washington, D.C., 1984.

Table 9. Money Income in 1979 for Native- and Foreign-Born Persons 85 Years and Over With Income: 1980

Percent	Native born	Foreign Born
Total (numbers)	1,785,741	360,780
With income.............	100.0	100.0
$1 to 3,999 or loss...	55.7	55.5
$4,000 to 5,999.......	18.8	22.0
$6,000 to 9,999.......	13.8	13.7
$10,000 to 24,999.....	9.5	7.4
$25,000 or more.......	2.3	1.3

Source: U.S. Bureau of the Census, Special Tabulation for the National Institute on Aging from the 1980 Census, Table 23.

Table 10. Selected Characteristics of Persons Aged 65-69 and 85 and Over: 1970 and 1980

Selected characteristics	1970		1980	
	65-69 years	85+ years*	65-69 years	85+ years
SEX RATIO (males per 100 females)	80.7	53.3	80.0	43.7
PERCENT CURRENTLY MARRIED				
Males	80.6	42.4	83.0	48.4
Females	52.0	9.9	54.8	8.4
PERCENT WIDOWED				
Males	8.8	47.0	7.3	43.8
Females	36.5	79.0	33.8	81.8
PERCENT IN FAMILIES				
Males	83 9	60.4	85.4	58.9
Females	67.2	47.9	66.8	36.7
PERCENT LIVING IN HOUSEHOLDS ALONE OR WITH NONRELATIVES				
Males	13.8	24.2	12.9	24.1
Females	30.5	29.0	31.5	35.6
PERCENT IN INSTITUTIONS				
Males	1.8	14.3	1.4	16.1
Females	1.6	21.9	1.3	26.3
EDUCATION				
Percent high school graduates	30.5	23.0	45.1	30.0
Percent 8+ yrs. of school	70.9	60.1	81.2	66.6
Percent with less than 8 yrs. of school	19.1	39.9	18.8	33.4

Table 10. Selected Characteristics of Persons Aged 65-69 and 85 and Over 1970 and 1980 (Continued)

Selected characteristics	1970		1980	
	65-69 years	85+ years*	65-69 years	85+ years
RACE AND NATIVITY				
Percent black	9.0	7.6	8.8	7.1
Percent foreign born	12.8	18.6	7.8	18.6
PERCENT IN LABOR FORCE				
Males	39.0	6 8	29.2	4.2
Females	17.2	3.4	15.0	1.5
PERCENT BELOW POVERTY LEVEL	21.6	37.1	11.6	21.3
MEDIAN INCOME (CONSTANT 1979 DOLLARS) IN PREVIOUS YEAR				
Males	$7,160	$3,303	$8,584	$4,797
Females	$3,085	$2,319	$3,819	$3,284

*Data for the 85+ population in 1970 from the public-use samples exclude centenarians since this group was seriously overstated in published sources.

Source: Bureau of the Census (1970 and 1980 censuses and public-use microdata samples).

Table 11. Percent Population in Institutions by Age: 1950 to 1980

Year	65-74 years	85 years and over
1950	2.1	9.4
1960	2.2	13.8
1970	2.1	19.3
1980	1.8	23.2

Source: U.S. Bureau of the Census, Decennial Censuses of Population.

Table 12. Marital Status of Persons 85 Years Old and Over, by Residential Status and Sex: 1980

(Percent distribution)

Residential status	Male	Female
IN HOUSEHOLDS		
Total (number)........................	554,356	1,102,647
Total (percent)........................	100.0	100.0
Married (includes separated)...............	53.3	9.8
Widowed....................................	40.5	81.7
Divorced...................................	1.9	2.1
Never married..............................	4.2	6.4
IN INSTITUTIONS		
Total (number)........................	107,638	401,280
Total (percent)........................	100.0	100.0
Married (includes separated)...............	24.2	4.8
Widowed....................................	60.5	82.7
Divorced...................................	2.9	1.6
Never married..............................	12.3	10.9

Source: U.S. Bureau of the Census. 1980 Census of Population. Household data: NIA Special Tabulations, Table 10. Institutional data: NIA STF5 Tabulations, Table 10.

Table 13. Institutionalized Population 85 Years and Over for Selected Types of Institutions: 1980

Type	All races		Black	
	Male	Female	Male	Female
Institutional Population........	107,638	401,280	4,924	15,176
Homes for the Aged............	100,958	386,788	4,313	13,995
Never married...............	11.7%	10.8%	14.6%	7.8%
Now married (ex. sep.)......	23.2	4.3	20.6	4.5
Divorced/Separated..........	3.7	1.9	6.9	4.3
Widowed.....................	61.3	83.0	57.9	83.4
Mental Hospital...............	2,582	4,440	303	453
Never married...............	28.6	18.3	35.3	14.8
Now married (ex. sep.)......	24.6	9.4	29.0	4.6
Divorced/Separated..........	8.6	8.6	9.2	24.7
Widowed.....................	38.3	63.6	26.4	55.8

Source: U.S. Bureau of the Census, Special Tabulation for the National Institute on Aging from the 1980 Census of Population, Table 14.

Table 14. Estimates of Population Aged 85 and Over by State: July 1, 1987 (Ranked by number. Numbers in thousands)

	State	Number	Percent
	United States, Total	2,867	1.2
1	California	282	1.0
2	New York	235	1.3
3	Florida	180	1.5
4	Pennsylvania	160	1.3
5	Texas	151	0.9
6	Illinois	140	1.2
7	Ohio	130	1.2
8	Michigan	99	1.1
9	New Jersey	90	1.2
10	Massachusetts	88	1.5
11	Missouri	76	1.5
12	Wisconsin	70	1.5
13	Indiana	68	1.2
14	Minnesota	65	1.5
15	North Carolina	64	1.0
16	Virginia	56	0.9
17	Tennessee	55	1.1
18	Iowa	53	1.9
19	Georgia	53	0.9
20	Washington	52	1.1
21	Alabama	45	1.1
22	Maryland	44	1.0
23	Kentucky	44	1.2
24	Louisiana	43	1.0
25	Oklahoma	43	1.3
26	Connecticut	43	1.3
27	Kansas	41	1.7
28	Oregon	37	1.4
29	Arkansas	33	1.4
30	Arizona	32	0.9
31	Colorado	31	0.9
32	Mississippi	30	1.1
33	Nebraska	28	1.8
34	South Carolina	28	0.8
35	West Virginia	25	1.3
36	Maine	17	1.4
37	Rhode Island	15	1.5
38	New Mexico	13	0.9
39	New Hampshire	13	1.2
40	South Dakota	13	1.8
41	Utah	12	0.7
42	Idaho	11	1.1
43	Montana	10	1.2
44	North Dakota	10	1.5
45	Hawaii	9	0.8
46	District of Columbia	8	1.3
47	Delaware	7	1.1
48	Vermont	7	1.3
49	Nevada	6	0.6
50	Wyoming	4	0.8
51	Alaska	1	0.2

**Note-Columns may not add to total due to independent rounding.

Table 15. Estimates of the Population Aged 85 and Over by State: July 1, 1987 (Ranked by Percent)

	State	Number	Percent
	United States, Total	2,867	1.2
1	Iowa	53	1.9
2	South Dakota	13	1.8
3	Nebraska	28	1.8
4	Kansas	41	1.7
5	Minnesota	65	1.5
6	Rhode Island	15	1.5
7	Massachusetts	88	1.5
8	Florida	180	1.5
9	Missouri	76	1.5
10	North Dakota	10	1.5
11	Wisconsin	70	1.5
12	Maine	17	1.4
13	Arkansas	33	1.4
14	Oregon	37	1.4
15	Pennsylvania	160	1.3
16	Connecticut	43	1.3
17	New York	235	1.3
18	West Virginia	25	1.3
19	Oklahoma	43	1.3
20	District of Columbia	8	1.3
21	Vermont	7	1.3
22	Montana	10	1.2
23	New Hampshire	13	1.2
24	Indiana	68	1.2
25	Illinois	140	1.2
26	Ohio	130	1.2
27	Kentucky	44	1.2
28	New Jersey	90	1.2
29	Washington	52	1.1
30	Mississippi	30	1.1
31	Tennessee	55	1.1
32	Idaho	11	1.1
33	Alabama	45	1.1
34	Delaware	7	1.1
35	Michigan	99	1.1
36	California	282	1.0
37	North Carolina	64	1.0
38	Maryland	44	1.0
39	Louisiana	43	1.0
40	Virginia	56	0.9
41	Arizona	32	0.9
42	Colorado	31	0.9
43	Texas	151	0.9
44	New Mexico	13	0.9
45	Georgia	53	0.9
46	Hawaii	9	0.8
47	South Carolina	28	0.8
48	Wyoming	4	0.8
49	Utah	12	0.7
50	Nevada	6	0.6
51	Alaska	1	0.2

**Note-Columns may not add to total due to independent rounding.

Table 16. Percent Distribution of Geographical Mobility of Elderly Population Between 1975 and 1980, by Age and Sex: 1980

	65-69 years	80-84 years	85+ years
Total, Men	3,921,736	1,020,562	673,841
Same house	77.3	78.7	73.9
Different house, U.S	22.2	21.0	25.8
Same county	11.8	13.1	16.4
Different county	10.4	7.9	9.5
Same state	4.8	4.4	5.6
Different state	5.6	3.5	3.8
Abroad	0.5	0.3	0.3
Total, Women	4,954,494	1,933,373	1,537,572
Same house	76.9	74.4	68.7
Different house, U.S	22.5	25.3	31.1
Same county	13.0	16.1	20.0
Different county	9.5	9.3	11.1
Same state	4.6	5.2	6.6
Different state	4.9	4.0	4.5
Abroad	0.6	0.3	0.2

Source: U.S. Bureau of the Census, 1980 Census of Population, NIA STF5 Special Tabulations, Table 5.

Table 17. Percent of Noninstitutionalized Persons Aged 65-74 and 85+
With 8 or Less Years of Education, Ranked by State: 1980

State Rank 65-74		State Rank 85 and Over	
1 Kentucky	57.0	1 West Virginia	74.1
2 West Virginia	54.3	2 Kentucky	73.7
3 Louisiana	53.1	3 North Dakota	71.9
4 Tennessee	52.8	4 Hawaii	70.3
5 Georgia	52.2	5 Louisiana	69.9
6 North Carolina	51.9	6 Wisconsin	69.2
7 North Dakota	51.8	7 Arkansas	67.3
8 South Carolina	51.0	8 Tennessee	66.9
9 Alabama	49.7	9 Alabama	66.0
10 Arkansas	48.6	10 Mississippi	65.6
11 Hawaii	48.4	11 Illinois	65.5
12 Mississippi	48.0	12 Minnesota	65.5
13 Virginia	46.7	13 Missouri	65.4
14 Missouri	44.7	14 Pennsylvania	65.2
15 South Dakota	43.4	15 North Carolina	65.0
16 Rhode Island	42.8	16 New Jersey	64.4
17 Pennsylvania	42.5	17 South Dakota	63.4
18 Wisconsin	40.9	18 Oklahoma	63.2
19 Maryland	40.3	19 Georgia	63.0
20 New Jersey	40.1	20 South Carolina	62.6
21 Illinois	39.5	21 Ohio	62.1
22 Minnesota	39.5	22 Indiana	61.8
23 Texas	39.4	23 Michigan	61.4
24 Oklahoma	38.6	24 New Mexico	61.1
25 New York	38.1	25 Rhode Island	60.8
26 Connecticut	37.4	26 Maryland	60.5
27 Michigan	35.2	27 New York	59.7
28 New Mexico	35.2	28 Virginia	59.6
29 Alaska	34.3	29 Connecticut	57.9
30 Delaware	34.3	30 Iowa	57.7
31 Indiana	33.9	31 Nebraska	57.6
32 Montana	33.3	32 Kansas	57.3
33 District of Columbia	33.0	33 Montana	57.2
34 Iowa	32.9	34 Texas	56.6
35 Vermont	32.7	35 Alaska	56.1
36 Ohio	31.8	36 Delaware	53.3
37 Nebraska	31.5	37 Idaho	52.9
38 New Hampshire	30.2	38 Washington	51.9
39 Kansas	29.6	39 Wyoming	51.7
40 Maine	28.6	40 Colorado	49.8
41 Massachusetts	28.3	41 Arizona	49.4
42 Idaho	28.2	42 Oregon	48.9
43 Florida	28.0	43 Florida	48.2
44 Colorado	27.1	44 Massachusetts	48.1
45 Wyoming	26.5	45 California	47.9
46 California	26.0	46 New Hampshire	47.3
47 Oregon	25.8	47 Utah	45.3
48 Arizona	24.7	48 Nevada	45.2
49 Washington	24.1	49 District of Columbia	44.6
50 Nevada	23.8	50 Vermont	41.8
51 Utah	16.5	51 Maine	39.1

Table 18. Income in 1979 of Persons 85 Years and Over by Sex and Race: 1980

	ALL RACES		BLACK	
	Male	Female	Male	Female
With Income	619,096	1,325,313	47,468	92,888
Less than $4,000	38.9%	63.4%	64.1%	84.4%
$4,000 to $9,999	43.7	28.2	31.0	13.9
$10,000 to $24,999	13.7	7.1	4.5	1.5
$25,000 or more	3.6	1.3	0.4	0.1

Source: U.S. Bureau of the Census, Special NIA Tabulation from the 1980 Census of Population, Table 20.

Table 19. Percent of Persons 85 Years and Over Receiving Less Than $4000 from Income of Specified Type in 1979, by Race and Sex: 1980

SOURCE OF INCOME	ALL RACES		BLACK	
	Male	Female	Male	Female
Wage/Salary	47.5	57.6	52.5	61.3
Nonfarm Self-Employment	51.6	65.9	63.7	53.8
Farm Self-Employment	60.6	62.0	86.4	93.4
Interest/Dividends	67.7	73.3	86.9	90.4
Social Security	71.5	88.7	82.5	93.0
Public Assistance	90.1	95.0	94.5	96.3
All Other Sources	68.1	75.4	73.0	82.8

Source: Bureau of the Census, Special NIA Tabulations from the 1980 Census, Table 21A.

Representative SCHEUER. Thank you very much, Mr. Keane. Now we'll hear from Mr. Binstock.

STATEMENT OF ROBERT H. BINSTOCK, HENRY R. LUCE PROFESSOR OF AGING, HEALTH, AND SOCIETY, SCHOOL OF MEDICINE, CASE WESTERN RESERVE UNIVERSITY

AGING POPULATION AND COST IMPLICATIONS

Mr. BINSTOCK. Thank you, Mr. Chairman and Congressman Downey. You're heard two impressive predecessors, so I'll pare down my remarks and try to make a couple of major points.

One has to do with the health care implications of the changing nature of the aging population. The second will be some suggestions for some new emphases in health policy and health research.

First, I would like to make a point on the demographics you've heard. I think it's important to observe that demographic projections about old populations have consistently underestimated how large they will be, and that's understandable because it's hard to take into account all of the variables that can intervene to improve mortality. So we're looking probably at conservative estimates.

Second, I don't think it's terribly useful to combine simple population projections and economic figures such as "a third of our health care is spent on the elderly," and then project it into the future. What I think would be more useful to do is to focus on some dynamics within the aging population itself.

Certainly one aspect already touched on is that the older population itself is aging very markedly, very quickly. I'd just like to point up a few health care factors that relate to that and underline the cost implications.

For instance, with respect to hospital utilization, persons aged 85 and older now use hospitals at a rate that is 113 percent higher than those aged 65 to 74. Persons in the middle use them at a rate that is 69 percent higher than the people 65 to 74. This is just a way of giving you a feel for what this aging of the aging population means in that respect.

Similarly, in the long-term care arena, we have a picture that's comparable. At present, for example, about 2 percent of the population 65 to 74 years of age is in nursing homes. Of the population 85 or older, 16 percent is in nursing homes. Or to put it in disease terms, in a population aged 65 today the rate of Alzheimer's disease is about 2 percent. In a population 80 years of age, the rate is conservatively estimated to be 20 percent. So this aging of the aged population is not at all to be underestimated in terms of its health care implications.

Now it is possible, of course, that potential advances in preventing stroke, urinary incontinence, osteoporosis, and Alzheimer's disease might make a big impact on this. But to date there are no experts other than one doctor at Stanford, Dr. Jim Fries, who really believes that most of us will spend our lives to the end without being chronically ill. He's an optimist. He's a cheerleader, but he has no data, unfortunately.

CHANGING COMPOSITION OF THE ELDERLY

The other point about the changing nature of the aging population is the simple fact that there is a big turnover in that population every day. The Census Bureau, for example, has estimated that each day 5,200 Americans in the old age category reach their 65th birthday and 3,600 persons in that category die. Now over time, the cumulative impact of that changeover—new blood, so to speak—means different cohorts of people who have experienced different things at different periods in history. That can have a big impact on their health.

For example, one of the easiest impacts of a positive nature is in the area of oral health. In 1957 you could say that 55 percent of the old people in this country had no teeth of their own in their head. By 1980, that was down to 37 percent. Now it's not just all the availability, and quantity and quality of dentists. It's partly that. It's also different oral hygiene habits, and I expect as fluoridation cohorts come onto line as older persons we'll see some help there.

Let me name one other positive thing. That is the area of education. The people coming online into the older cohorts now are people with more years of schooling, which tends to suggest more compliance with physicians' orders, more seeking health from health care givers, and a variety of positive self-care activities.

On the negative side, though, there will be such things as a lot of women who started smoking after World War II getting into the old age category, so we may see a reversal of the pattern of higher coronary disease among older men than women.

Well, without beating this to death, I was trying to suggest that these changes within the aging population are as important as the numbers we're talking about.

GERIATRIC RESEARCH PRIORITIES

Let me just turn finally to some thoughts about what might be done. Improvements in health status in old age will probably require clinical research that is specifically focused on risk factors for older persons. For example, treating hypertension in older persons doesn't work out the same way as for younger adults, and brings on a whole new set of risk factors along with it. A coronary issue won't play out the same.

In addition, there ought to be targets of health prevention and promotion that extend beyond our traditional big targets—heart disease, cancer, stroke, and accident—to what are often called the geriatric syndromes of falling, dementia, urinary incontinence, nutritional imbalance, confusional state, and so on. These are not very dramatic but they are very costly as well as very deterimental to the quality of life of each victim.

Perhaps the most important consideration for health care in an aging society is a focus on functional capability because in addition to those older persons who are in nursing homes there are more than twice as many in the community who have significant if not equivalent limitations in activities of daily living.

Now we may not be able to deal with the underlying diseases or disabilities that are involved with these limitations, but if we focus more on how people can go to the toilet, get out of bed, eat—issues of that kind, we will be not only improving the quality of life for them but substantially reducing the caretaking chores and bills in our society.

One of the biggest gaps in our health research has been effective research on the value of rehabilitation among the elderly. In fact, rehab is often not undertaken in older persons because it's figured it isn't worth it. I suggest that some well-designed and evaluated studies might show that such efforts could in fact be cost effective just because of the years of long-term care that might be eliminated.

So in summary, I think that the changing nature of the older population implies not only enormous health care expenditures for the United States but enormous challenges in refocusing goals and objectives. And, particularly, I want to emphasize the maintenance and restoration of daily functional capability which is probably the most important thing we can do. Thank you.

[The prepared statement of Mr. Binstock follows:]

PREPARED STATEMENT OF ROBERT H. BINSTOCK

Thank you Mr. Chairman and members of the Subcommittee for inviting me to testify. My name is Robert H. Binstock. I am currently the Henry R. Luce Professor of Aging, Health, and Society, at Case Western Reserve University in Cleveland, Ohio. I have previously served as Director of a White House Task Force on Older Americans (under President Lyndon Johnson), as President of the Gerontological Society of America, and as chairman and member of a number of federal advisory panels dealing with research and policy on aging.

We are all aware that the current population of older Americans, some 28 million persons age 65 and older is expected to grow substantially in the decades immediately ahead. Standard projections are that by the year 2000 this number will increase to 35 million, and by the year 2020 to 51 million, and reach 65 million by the year 2030. If these projections prove wrong, they will most likely err on the low side. Because of continuous improvements in mortality trends, due to factors that cannot be easily and confidently anticipated, demographers have consistently and understandably underestimated in their forecasts regarding the size of the older population.

We are also well aware that persons 65 years of age and older account for about one third of annual health care expenditures in the United States. Last year this sum was about $170 billion out of $511 billion.

Predictions based on simple extrapolations combining the growth of the elderly population with trends in the continuing increases in health care costs can generate dramatically large numbers to depict the costs of health care of older persons for decades ahead. But extrapolation is a poor mode of prediction for this subject because the major factors involved -- the older population; and the financing, organization, and use of health care -- are changing continuously, and cannot be captured well by built-in assumptions. It is more useful, in my view, to address some of the dynamics within the aging population that can have a bearing on future health care costs.

Aging is Changing

While the phenomena of population aging are becoming rather well recognized, at least in terms of statistics such as increases in the absolute numbers and proportions of older persons in nations throughout the world, not so widely understood is that the characteristics of the aggregate population conventionally termed "old" are continuously changing in ways that have significant implications for health care as well as for most other activities and sectors in society. "The aging" are a "moving target" in several important respects.

The Changing Age Structure of the Older Population

The distribution of age groupings within the population aged 65 and older is changing markedly and will continue to do so. In 1980, for example, persons aged 85 and over constituted only 8.8% of the American older population; in the year 2000 they will be 14% of the group. Similarly, in 1980 persons aged 75 and older constituted 39% of the older population; by the year 2000 they will be 50% of it.

For the arena of health care, the potential implications of this continuous shift toward an increasingly older old-age population are enormous, and should be apparent from two brief illustrations.

At present, 45% of all health care spending on persons aged 65 and older in the U.S. is expended on hospitals; (physicians account for another 21%, and so do nursing homes). But the differences in hospital utilization rates among age groupings within the older population are substantial. For instance, persons aged 85 and older now use hospitals at a rate that is 113% higher than those aged 65 to 74; persons aged 75 to 84 use hospitals at a 69% higher rate than the 65 to 74 years grouping.

It is problematic, of course, to assume that treatment and prevention modalities, and especially the organization, financing, and delivery mechanisms of health care will remain relatively static over the next 10 to 20 years. But these comparisons among older age groups with respect to their hospital utilization rates should make it clear that no matter how the terrain of the health care arena evolves in the years ahead the changing age structure within the older population will, in itself, have a substantial impact upon the nature and volume of the demand for acute care, and the resources necessary to respond to it.

The changing age structure within the older population also portends a substantial increase in the demand for long-term care. At present, although "long-term care" is a conventional metaphor for health care and social supports for chronically ill and disabled older persons, it is a misleading metaphor. The fact is that there are more than twice as many severely disabled, non-institutionalized adults (ages 18 to 64) in the U.S. than there are chronically ill and severely disabled persons aged 65 and older both in and not in institutions. The changing distribution of age groups within the aged 65 and over category, however, suggests that the metaphor may become more accurate in decades immediately ahead.

The age-specific prevalence of many long-term chronic diseases and other disabling conditions rises exponentially among populations aged in their late 70s and in their 80s. One way in which these phenomena can be reflected in terms of the changing demand for care is by comparing the rates of institutionalization among age categories within the older age grouping. At present for example, about 2% of persons aged 65 to 74 years in the U.S. are in nursing homes; this compares with 7% of persons 75-84 years of age, and 16% of persons aged 85 and older. Consequently, the greater numbers of persons who soon will be in the older old-age categories is a major factor in projections that the current nursing home population of 1.5 million persons will increase to 2.1

million by the year 2000, and reach 4.4 million some 40 years later -- as well as parallel projections regarding even greater numbers of non-instutionalized older persons who will be as severely disabled as those in nursing homes.

It is possible, of course, that potential advances in preventing and treating urinary incontinence, osteoporosis, stroke, Alzheimer's Disease, and other conditions might be achieved and have substantial impact in delaying the onset of chronic illness and disability to older ages than at present, thereby reducing both the prevalance and duration of morbidity near the end of the life span. It is estimated for instance, that modest reductions in the age-related rate of bone loss, delaying hip fracture to five years later than it currently occurs, would reduce the overall number of hip fractures by 50 percent. To date, however, there is no scientific evidence to support the optimistic view that, within the foreseeable future, most of us will live in a healthy, non-morbid condition to the end of our life spans.

The Changing Persons Who Constitute the Older Population

Another important respect in which the older population continuously changes is through its rapid turnover, due to birthdays and deaths. It has been estimated from census sources, for example, that each day 5,200 Americans reach their 65th birthday and 3,600 persons who are already in the category of aged 65 and older die.

Over time, large new cohorts accumulate within the older population, and others exit through death. These new cohorts of older persons will have lived through specific historical periods and common events at earlier stages in their life courses that shaped them to be substantally different from the cohorts they replace. To be sure, not all members of a cohort will have been affected in the same fashion by earlier periods and events. But the net effects of one cohort replacing another can result in substantial changes in the distribution of characteristics among those categorized as older persons.

The impacts of cohort turnover in changing the aggregate older population may include physical, as well as social and economic characteristics. Many such changes have implications that can be significant for the health status and health care of older persons.

A positive implication of such changes, for example, has been and will continue to be improvements in the oral health status of the older population. Newer cohorts that have entered the old age category have lived through periods of history in which both personal oral hygiene habits and quantity and quality of the dental care available have undergone steady improvement. For instance, the percentage of Americans older than 65 who have no teeth has steadily declined from 55% in 1957, to 46 percent in 1973, and to 34 percent in 1980. Also, cohorts entering old age early in the next century will have been exposed at an early age to the public health intervention of flouridated water systems. The result has been, and will continue to be, steady improvements in the dental health status of the older population.

Higher levels of educational attainment among newer cohorts bode well, similarly, for continuous aggregate improvements in the extent to which older persons understand and comply with health care instructions and guidance, undertake better self care, and seek medical assistance appropriately The impact of cohort turnover in changing the educational characteristics of older persons has been such that from 1970 to 1990, a period of just two decades, the median number of years of school completed by persons aged 65 years and older will have increased by 37%.

On the other hand, some of the implications of cohort turnover can be negative. At present, for instance, coronary heart disease is much more common among older men than women. But increases in the prevalence of cigarette smoking among young and middle-aged females during the decades following World War II could soon lead to a marked change in the prevalence trends of coronary disease among older women.

Different Emphases in Health Policy

On balance, most experts who have looked at the changing characteristics of the aged population that I have briefly outlined have concluded that the increased life span of the elderly is not accompanied by decreases in morbidity. On the contrary, most observers -- including a National Academy of Sciences Committee on An Aging Society -- have concluded that population aging will continue to result in dramatic increases in the need for health care. To reduce this demand it is clear that our attention should focus on improving the health status and the functional status of older persons.

Improvements in health status in old age will require clinical research on the risk factors for common diseases in older persons in order to develop strategies to decrease the risk of morbidity among people in their 70s and 80s. Simplistic generalizations from studies of younger and middle-aged adults to older persons are often misleading. Recent evidence indicates that risk factors for common disorders, such as coronary disease and stroke, may be substantially different in persons 85 years of age and older than in the younger-old or the middle-aged populations.

In addition to research that throws light on risk factors at advanced ages, we need to target health promotion and disease prevention among older persons in a different fashion than we do for their younger counterparts. The traditional targets of prevention -- cancer, heart disease, accidents, and stroke -- should be broadened to include what have been termed geriatric syndromes. These common disorders -- such as urinary incontinence, falling, dementia, nutritional imbalance, and acute confusional state -- are very costly, as well as detrimental to the quality of each victim's life.

Penaps the most important consideration for health care in an aging society, is a focus on functional capability. In addition to those older persons who are in nursing homes, a substantial proportion of older persons who are not institutionalized have major limitations in their Acitivities of Daily Living (ADLs), such as bathing, dressing, toileting and eating. Such functional impairments are clearly age-related among the elderly, increasing from about 5% within the 65 to 74-year-old group to nearly 40% by age 85. Consequently, a major health care goal for an aging society is the maintenance of functional capabilities, regardless of chronic illness, as nearly as possible to the end of the life span.

This goal of functional capability requires far greater demonstration efforts and research on rehabilitation among the elderly than we have had to date. Very little is known about the efficacy of rehabilitative efforts with older patients; indeed, such efforts are often not even undertaken with respect to very old patients. But rigorously designed and implemented studies may be able to show us that such efforts are cost-effective, particularly if they reveal that rehabilitation can restore sufficient daily functional capacities in some older patients, rendering them independent of the need for costly long-term care.

Conclusion

In summary, the changing nature of the older population -- as well as increases in its size -- suggest enormous health care challenges for American society. Some of these challenges call for a shift in health care goals so as to place greater emphasis on diseases of the elderly, and on the maintenance and restoration of daily functional capacity.

Thank you, Mr. Chairman, for this opportunity to share a few thoughts with you and your colleagues.

Representative **Scheuer**. Thank you very much, Mr. Binstock. Now we'll hear from Mr. James Vaupel.

STATEMENT OF JAMES W. VAUPEL, DIRECTOR, CENTER FOR POPULATION ANALYSIS AND POLICY, AND PROFESSOR OF PUBLIC AFFAIRS, HUMPHREY INSTITUTE, UNIVERSITY OF MINNESOTA

LIFE EXPECTANCY PROJECTIONS

Mr. **Vaupel**. Thank you very much, Mr. Chairman, for inviting me. My name is Jim Vaupel and I grew up in Congressman Downey's district.

What I'd like to do is talk a few minutes this morning about my daughter Anna's future. She was born 4 years ago and a good demographic question struck me at the time—what is Anna's life expectancy?

I spent much of the last 4 years thinking about that question and what I would like to do this morning is share with you what I've learned about it.

The official estimate of life expectancy in the United States today is 72 for men and 78 for women, but that official estimate assumes that no health progress is going to be made over the course of Anna's life. That's a very pessimistic assumption, given the very great progress we've made in health and our medical progress and public health progress over the course of this century, and the likely advances that will come from the biomedical and public health research conducted by the NIH and other agencies.

So I think a more reasonable assumption, as Mr. Binstock alluded to, is that we will continue to make progress against mortality and probably at an increasing rate. As explained in a couple of articles that I helped write, my best guess is that Anna and her generation will live, on average, 100 years.

Now this is a more optimistic projection than some of the previous actuarial forecasts given, but I think it can be justified and it's a best guess but highly uncertain estimate.

Now a life expectancy of 100 years would produce some pretty far-reaching economic, social, and political changes. It's not an unprecedented increase because we've gone from a 50-year life expectancy to a 75-year life expectancy over the course of this century, and it will occur gradually. Nonetheless, a new demography will result in this country from the life expectancy of my daughter's generation of 100 years.

In particular, the number of older people will grow dramatically. My best guess projection is that by the time my daughter becomes a centenarian the population of Americans between ages 65 and 85 will more than double, from 28 to 57 million, and the number of Americans over age 85, as we've been focusing on this morning, will not merely double or quadruple—and I don't think it will merely go up by a factor of 5—but my guess is it will go up by a factor of 25. It will go from about 2 million people today to 50 million people by the middle of the next century.

Altogether, my projections indicate that 4 out of 10 Americans will be above the age of 65. This, of course, will mean that people won't retire at 65 but will retire much later and there will be a radical change in our economic, political and social conditions.

UNCERTAINTIES WITH PROJECTIONS

Now these projections are just intelligent guesses and there's a lot of uncertainty about them. In fact, the most important thing that I've learned in thinking about Anna's life expectancy is that nobody has a very good idea about what it will be because our current state of knowledge about morbidity and mortality patterns, especially at very old ages after 85, is abysmally inadequate.

The uncertainties come from several reasons. The life expectancy of Anna's generation could be brutally short, given the dangers of nuclear war, uncontrolled epidemics like AIDS, environmental collapse, the greenhouse effects, ozone depletion, and so on. Another factor might be that Anna's life expectancy could be limited to 85 years or so by genetic factors that we don't understand yet. There's a lot of uncertainty about that.

On the other hand, if biomedical and public health progress accelerates and if there is continuing progress against cardiovascular disease and there's a breakthrough against cancer and if there are some breakthroughs in understanding aging itself, then over the next 100 years so much progress might be made that Anna could live even more years, and Anna might even match Methuselah.

So I think we're extremely ignorant about what the possibilities are for life expectancy of people who are alive today. And beyond this, we are also very ignorant about what Anna's healthy, active life expectancy will be. The key question is will she lead a healthy, active life to age 84 and then die at age 85? Or will she go into a nursing home at age 80 and spend 30 years in, as Shakespeare put it, "near oblivion" until age 120. It's the expensive period of frailty that drives health care costs up and we only have the vaguest ideas about whether Anna's generation will spend a year or half a century in misery.

RESEARCH PRIORITIES

Let me close with a plea for research. I'm a professor, and we are always making pleas for research. But here I think it's justified. First, basic research that may yield breakthroughs in Anna's lifetime. Basic research might not pay off for 10, 20, or 30 years. We should realize that the coming generations of Americans might live 100 years so there will be plenty of opportunity for that basic research to pay off.

Second, applied research on reducing morbidity and disability among the elderly. The elderly population is certainly going to grow even if my projections are not correct and we should be doing some work on making life more pleasant for older persons.

Third, we need much more extensive demographic research on forecasting life expectancy and active life expectancy. Some of these forecasts, as given earlier by my distinguished fellow panelists, are to decimal points, like 84.3 years. I think a better way to think about it is that we don't know the life expectancy of the next generation within 20 years.

In particular, in terms of research, the National Institute on Aging's initiative on the oldest old, which is run by Richard Suzman who is here with us this morning, has been fostering the kind of research needed and some major contributions have been made by a number of researchers, including Kenneth Manton at Duke University, but better data is needed, especially data like that in the longitudinal study on aging that capture morbidity and mortality patterns at very old ages, above age 85. We know very, very little about people above age 85, but that's where our future lies, a fifth of our population may be above 85 in Anna's lifetime.

Representative SCHEUER. A fifth?

Mr. VAUPEL. A fifth of the population may be above age 85 by the time my daughter is above age 85.

It seems to me that more advanced models of analysis are also required based on multidisciplinary research.

To answer my original question, we don't know how long Anna's generation will live, but it might be a century or more. And if it is a century or more, there's going to be a large number of people above the age of 85. My best guess is a fifth, and there will be roughly equal numbers of people in every decade of life from birth until age 100. We don't know how long active, healthy lifespans will be, and that's the key uncertainty in forecasting health care needs among the elderly. Will Anna live healthy to 99 and then die at 100 or will she live to 80 and go into a nursing home and die at 100? That's the key question. We just don't know the answer to that.

We could get a much better idea if we did some more research on the oldest old population, but up until now there has been a little bit of research, a lot of speculation, not anywhere near enough serious indepth research with good data. Thank you, Mr. Chairman.

[The prepared statement of Mr. Vaupel, together with an article entitled "Passage to Methuselah," follows:]

PREPARED STATEMENT OF JAMES W. VAUPEL

Four years ago my daughter Anna was born. A good demographic question struck me at the time: what is Anna's life expectancy? I have spent much of the last four years thinking about that question and trying to get other researchers to address it. I would like to share with you what I have learned.

The official estimate of life expectancy in the United States today is 75 years, 72 for men and 78 for women. But that official estimate assumes that no health progress will be made over the course of Anna's life: death rates at all ages will stay the same as today. Given the great progress made since the turn of the century in reducing mortality rates and given the extraordinary advances being made today in biomedical and public health research, fostered by the National Institutes of Health, a more reasonable assumption would be that mortality rates will continue to fall, perhaps with increasing speed. As explained in two articles I helped write -- "Anna's Life Expectancy" and "Passage to Methuselah" -- my best guess is that Anna and her generation will live on average about 100 years.

Such an increase in longevity would produce far-reaching economic, social, and political changes. The 25 year increase in life expectancy would not be unprecedented -- since the turn of the century life expectancy has increased from 50 years to 75 years. Nonetheless, a new demography would result from a life expectancy of 100 years.

In particular, the number of older people would grow dramatically. My best-guess projection is that by the time Anna becomes a centenarian, the number of Americans between ages 65 and 85 will more than double, from 23 million to 57 million. The number of Americans over age 85, the oldest old, will not merely double or quadruple, but increase by 25 times over, from 2 million to 50 million. Altogether, 4 in 10 Americans will be above age 65, compared with 1 in 10 today.

These projections are just intelligent guesses and there is a lot of uncertainty around them. In fact, the most important thing I have learned about Anna's life expectancy is that no one has a very good idea about what it will be because our current state of knowledge about mortality patterns at advanced ages is abysmally inadequate.

The life expectancy of Anna's generation could be brutally short, given the dangers of nuclear war, uncontrollable epidemics, and environmental collapse. Anna's life expectancy might be limited to 85 years or so, if genetic barriers prevent progress in reducing mortality after that age. On the other hand, if biomedical and public health progress accelerates and there are breakthroughs in the next hundred years not only against cardiovascular diseases and cancer but also in understanding aging itself, then Anna might match Methuselah.

We are also ignorant of what Anna's healthy, active life expectancy will be. Will she live a healthy life to age 84 and die at age 85 or will she live to 120, spending decades in "mere oblivion, sans teeth, sans eyes, sans taste, sans everything." It is the expensive period of frailty at the end of life that drives health care costs and we have only the vaguest idea about whether Anna's generation will spend a year or a half century in misery.

So let me close with a plea for research, basic research that may yield breakthroughs in Anna's lifetime, applied research on reducing morbidity and disability among the elderly, and demographic research on forecasting life expectancy and active life expectancy. In particular, the National Institute of Aging's Initiative on the Oldest Old, run by Richard Suzman, has been fostering the kind of research needed and some major contributions have been made by researchers like Kenneth Manton at Duke University. But better data is needed, especially data, like that in the Longitudinal Study of Aging (LSOA), that capture morbidity and mortality at advanced ages over time, and more advanced models of analysis, growing out of multidisciplinary collaboration, are also required.

So to answer my original question -- we do not know how long the next generation of Americans will live, but it might well be a century or more. We also do not know how long active, healthy lifespans will be. We could get a much better idea if we did some more research on morbidity and mortality among the oldest old.

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Commentary

Passage to Methuselah: Some Demographic Consequences of Continued Progress against Mortality

JAMES W. VAUPEL, PHD, AND ANN E. GOWAN

Abstract: How will progress against mortality affect the size and age composition of the United States population over the next century? To gain some insight into this question, three scenarios are examined: no future progress against mortality; steady reductions in mortality at all ages at a rate of 2 per cent per year; and a radical breakthrough in the year 2000 that cuts mortality in half. All three scenarios substantially shift the composition of the US population toward older ages, steady progress resulting in the most radical change. If mortality is reduced 2 per cent per year, by 2080 almost two-fifths of the population would be above age 65 and the number of centenarians would approach 19 million. The social, economic, and public health consequences of this new demography, although speculative and uncertain, are so important that detailed analysis and planning are warranted. (*Am J Public Health* 1986; 76:430–433.)

Introduction

Suppose progress continues to be made in reducing mortality rates at all ages. What impact would this progress have on the size and age composition of the United States population?

The supposition that mortality rates will continue to fall is admittedly questionable. The view popularized by Fries is that, "the median natural human life span is set at a maximum of 85 years with a standard error of less than one year."[1] Demeny, in making long-term population forecasts for the World Bank, assumes that even by the year 2100 there will be no country with a life expectancy above 82.5 years.[2]

Demeny notes that in some countries life expectancy seems to be slowly decreasing. The possibility of a general decline in life expectancy cannot be ruled out. On the other hand, as Demeny points out, "the upper limit to life expectancy" of 82.5 years "may yield to technological changes in medicine and to changes in life styles, perhaps even within the next few decades."[2]

As documented by Crimmins,[3] remarkably rapid progress in reducing mortality rates was made in the United States from 1968 to 1977. This progress has continued and even accelerated from 1977 to 1984. At most ages, including older ages, mortality rates over the last decade and a half have been declining at a rate of 1 or 2 per cent per year.

Hope that this progress might continue is buttressed by recent advances in the biological, medical, and gerontological sciences. The life sciences appear to be poised at roughly the point the physical sciences were a century ago and breakthroughs comparable to electricity, automobiles, television, and computers may be forthcoming in the areas of genetic engineering, prevention and treatment of such diseases as atherosclerosis, cancer, and diabetes, and perhaps understanding and control of the process of aging itself.[4-6]

As argued by Manton,[7] the only judicious position to take, in light of the conflicting evidence and theories about the rate and direction of future mortality change, is to admit uncertainty. There is a chance that mortality rates will continue to decline at recent rates; there is a chance this progress will level off; there is a chance that mortality rates will increase; there is a chance of some major breakthroughs that will radically reduce mortality rates. Given this uncertainty, it seems reasonable to try to gain some understanding of the demographic consequences of alternative mortality scenarios.

In this commentary, we explore three possibilities: no change in mortality rates; continued progress at 2 per cent per year at all ages; and a radical breakthrough that cuts mortality rates in half in the year 2000. To study continued progress against mortality, we needed mortality rates at advanced ages, well beyond the usual stopping point of 85: we based the rates we used up through 119 on Faber's actuarial study[8]; after this age we made the conservative assumption that mortality rates increased by nearly 9 per cent per year. All the calculations we make are optimistic in that we ignore the possibility of nuclear war and other catastrophes.

Our focus is on the impact of such scenarios on the size and age composition of the US population. Because our aim is insight and not prediction, we will initially assume that fertility rates stay unchanged and that net migration amounts to zero: these simplifications avoid obscuring the effects of mortality change with fertility or migration change. Then we will briefly consider the difference fertility and migration might make.

No Change in Mortality Rates

If age-specific mortality rates stay at 1980 levels (and if age-specific fertility rates also stay unchanged and there is no net migration at any age), then the age composition of the United States will change over the coming century as indicated in the left-most column of Table 1. It may seem surprising that no change produces so much change: the shift in the age composition results from the differences in historical levels of mortality and fertility compared with the 1980 levels.

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TABLE 1—Age Distribution of US Population in 1980 and in 2080

			In 2080 if Age-specific Mortality Rates					
	In 1980		Stay at 1980 Levels		Decline 2% per Year		Are Cut in Half in 2000	
Age Category	Number (in millions)	(%)	Number (in millions)	(%)	Number (in millions)	(%)	Number (in millions)	(%)
Under 20	72	(32)	48	(23)	51	(18)	50	(21)
20–64	129	(57)	117	(57)	128	(45)	124	(52)
65–84	23	(10)	36	(17)	57	(20)	47	(20)
85+	2.2	(1)	5.3	(2.6)	51	(18)	17	(7.1)
Total	227	(100)	206	(100)	286	(100)	238	(100)

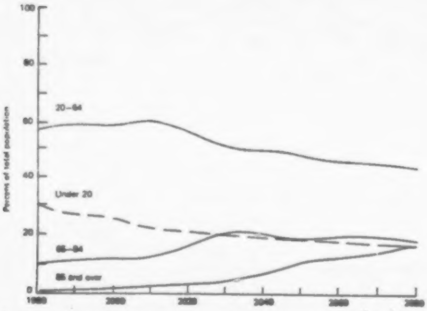

FIGURE 1—The Evolving Age Structure of US Population if Age-specific Mortality Rates Decline at 2 Per Cent per Year

Compared with 1980, the proportion of the population under age 20 declines by more than a fourth, the proportion in the prime years from 20 to 64 stays constant, and the proportion above age 65 almost doubles from 11 to 20 per cent. Centenarians, who numbered 20,000 in 1980, multiply to nearly 110,000 in 2080: the scarcity of centenarians today is a legacy of high mortality rates and smaller population sizes a century ago.

Even though the 1980 fertility rates are below replacement level, the US population will continue to grow under this scenario, from 225 million in 1980 to 254 million in 2020. As the population ages, however, and the reverberations of the baby boom dampen out, deaths overtake births and from 2020 to 2080 the population declines to 206 million.

Steady Progress

Suppose mortality rates continue to decline at all ages at a rate of 2 per cent per year. As shown in Table 1 and in Figure 1, this steady, gradual progress would radically transform the age composition of the US population in a century. By 2080, the proportions of the population under age 20, between ages 65 and 84, and above age 84 would be about the same, 18–20 per cent in each case. The population between ages 20 and 64 would correspondingly decline to 45 per cent of the total. As these proportions suggest, the age structure of the population would be roughly level from birth to age 100. The population would fall off above age 100, but it would not be unusual to survive to 125 and a few hardy individuals would be 140 or more. The total number of centenarians would approach 19 million and nearly 400,000 of them would be at least age 125. Those 400,000 will have been born before 1955; one of us (Gowan) will only be 117 in 2080.

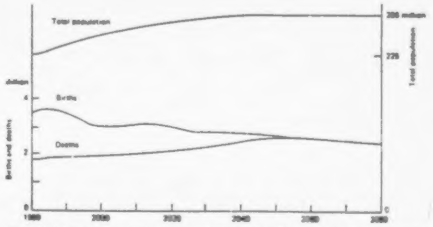

FIGURE 2—US Births, Deaths, and Total Population from 1980 to 2080 if Age-specific Mortality Rates Decline at 2 Per Cent per Year

In 1980, about one person in 1,000 was above age 90; in 2080 under this scenario, about one person in seven would be above age 90 and more than one person in 1,000 would be above age 125.

Figure 2 shows the trends in births, deaths, and total population size. Births gradually decline and deaths increase until they meet and then slowly decline together: the progress in reducing mortality offsets the low level of fertility so that population size remains constant, at 286 million.

A Breakthrough

Suppose at the turn of the millennium a breakthrough was made that cut mortality rates in half at all ages, but that

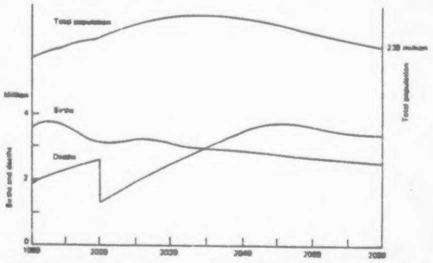

FIGURE 3—US Births, Deaths, and Total Population from 1980 to 2080 if Age-specific Mortality Rates Are Cut in Half in 2000

before and after this breakthrough mortality rates remain unchanged. Figure 3 shows the effect on deaths, births, and total population. By 2030, deaths overtake births and the total population declines by 2080 to 238 million. As shown in Table 1, the age structure of the population in 2080 is intermediate between the structure with no progress and the structure assuming 2 per cent annual progress. Indeed, this age structure is similar to the structure that would emerge from steady 1 per cent progress against mortality.

Just as the tortoise in Aésop's fable creeps along at a deliberate pace and overtakes the resting hare, steady 2 per cent progress amounts to more in a century than a one-time 50 per cent reduction. In fact, with steady 2 per cent progress mortality rates at each age would be cut to about one-eighth of their original level in a century.

Insight, Prediction and Projection

Demographers often distinguish between prediction and projection: predictions purport to foretell the future, whereas projections are extrapolations from the present based on some specified procedure. Certainly not predictions, the calculations presented so far can hardly be called projections, because they assume constant fertility, no net migration at any age, and unrealistically regular patterns of change in mortality. Any demographer could come up with more sophisticated projections and many have done so.

The drastic simplifications were made deliberately. If buzzing complications are suppressed, then the impact of progress against mortality on the size and age-structure of a population can be more clearly perceived. Thus the purpose of the calculations was neither prediction nor projection, but insight.

The gist of the calculations is that continued progress against mortality will somewhat increase the size of the US population, largely by adding a surprisingly large number of people over age 85. Even if there is no future progress against mortality, past progress will produce a tripling of the very old population within a century. A breakthrough that substantially cuts mortality is not needed to radically alter a population's age structure; indeed, steady 2 per cent progress has a much greater impact over the course of a century than a one-time halving of mortality rates.

The calculations were aimed at isolating and capturing what might be called the force of steady mortality progress. The operation of this force will be somewhat obscured by other forces, including the force of differential mortality progress at different ages, the force of fertility change, and the force of net migration. Some simple arithmetic, however, indicates that these other forces are unlikely to reverse a trend toward a fundamental shift in the age structure of the US population.

Consider differential mortality progress. Death rates before age 60 or so in the United States are so low that the calculations presented in this commentary would hardly change if these death rates either remained constant for the next century or were reduced to zero tomorrow. Early deaths nonetheless remain a central public health concern and are even more significant than deaths in old age from a number of perspectives.[9] What will determine the age distribution of the US population is the rate of progress in reducing mortality after age 60 and especially after age 80. If much less progress is made over the next century at ages above 80 than is made between ages 60 and 80, then there will be far fewer people in the 85+ population than we have calculated. It is conceivable, however, that the rate of progress at very old ages will be substantial, and it is this possibility that we have explored. For example, using single-year-of-age mortality figures published for 1970 and 1980, it can be calculated that mortality rates for females were reduced by 1.6 per cent, 1.3 per cent, 2.0 per cent, and 1.2 per cent per year over this decade at ages 60, 70, 80, and 90, respectively.

Since everyone who will be 95 or more in 2080 has already been born, changes in fertility levels are irrelevant for calculations of numbers of the extremely old. Even for cohorts not yet born, fertility change is likely to be far less significant than mortality change in altering the size of the elderly population. A 25 per cent rise in the number of births a decade from now would correspondingly increase our population estimates for 85-year-olds by 25 per cent. This can be compared with the ten-fold increase in the 85+ population if progress against mortality is 2 per cent per year instead of being negligible, as shown in Table 1.

As indicated in Figures 2 and 3, our calculations assume roughly three million births per year, somewhat more in the near future and somewhat less a century hence. If a million births were added or subtracted every year, the size of the US population would substantially change, but the age composition of the population in 2080, up to age 95, would be unaffected. If births were added in some decades and subtracted in others, population waves would be set up, similar to the waves resulting from past baby booms and busts that can be detected in Figures 1, 2, and 3, but the underlying pattern would persist.

A steady increase in the number of births each year would decrease the proportion of the population that is elderly, although it would also somewhat increase the number of people reaching old age. Conversely, a steady decline in the number of births would have the opposite effects: the elderly would be less numerous but relatively more important.

Net immigration to the United States will increase population size. Its impact on the age composition of the population can be thought of as being similar to the impact of births that occur around age 20, assuming that is the peak age of immigration, as opposed to the usual births at age zero. Hence migration, like fertility, is unlikely to fundamentally alter the effects of progress against mortality on the age composition of the US population. Migrants grow old too, and a 20-year-old migrant will reach age 85 some 20 years before a newborn does.

Adjusting to the New Demography

In sum, whether there is no further progress against mortality, steady progress at 1 or 2 per cent per year, or some breakthrough that substantially cuts mortality rates, the age structure of the US population (and of the populations of most other developed countries and many developing countries as well) seems likely to shift toward older ages. If the life sciences over the coming century produce advances similar in impact to the advances produced by the physical sciences over the last century, the cumulative shift may be radical. Even in the case of revolutionary breakthroughs, however, the shift will occur gradually: if death were eliminated tomorrow it would still take a century before there would be many 200-year-olds. So society will have time to adjust to the new demography.

Nevertheless, it may be worthwhile to begin speculating about some of the adjustments that might have to be made, not only to start developing the wisdom that will be needed to successfully cope but also because some current decisions depend on long-run trends.[10] These adjustments unfortunately depend on a crucial uncertainty: will increased life expectancy be accompanied by increased healthy, productive life expectancy? Jonathan Swift, in the section of his *Gulliver's Travels* on the Luggnaggians, describes some of the pleasures and opportunities that would open up if people could live long, vigorous lives and then contrasts this vision with the misery of the immortal but decrepit struldbruggs and their drain on society. Who would wish to live to age 120 in, as Shakespeare wrote, "mere oblivion, sans teeth, sans eyes, sans taste, sans everything." The evidence, as reviewed by Manton,[7] is weak and mixed on morbidity and disability trends in old age; more research is needed.

In any case, given the likely expansion of the population of the elderly, it would seem to be prudent to place a very high priority on the development of ways of delaying or alleviating debilitating conditions. Promising directions here include not only biomedical treatments and cures and the promotion of healthy personal behavior, but also the design of appropriate living environments and of helpful products like voice-activated robots.[11]

If progress is made not only against mortality but also against morbidity, perhaps through progress in slowing the process of aging itself, people may wish to work longer. Furthermore, as the proportion of the population over age 65 begins to approach the proportion between ages 20 and 64, delayed retirement will almost certainly be required to save Social Security from bankruptcy. If more of the elderly hang onto their jobs, however, promotional opportunities will diminish for the young and whatever gain there may be in wisdom and experience in an organization may be offset by a lack of fresh thinking and new blood. In addition, the increase in the proportion of the elderly might result in a further shift of political power and even greater governmental focus on the needs of the elderly and inattention to the needs of the young.[12] A major challenge to society will be to develop career patterns and social norms that enable the elderly to productively contribute while simultaneously giving the young a chance.

When lifespans reach or even exceed a century, the division of life into three successive stages of education, employment, and retirement will undoubtedly have to be rethought. Not only to contribute productively to society but simply to understand society, octagenarians will have to have learned about the advances and changes that have occurred since they finished high school or college. Delaying the age of retirement to age 80 or 85 might permit periodic leaves from work—a year, say, every decade, for ongoing education. In addition, a reduction in the hours worked per week and an increase in the number of weeks of vacation per year might facilitate part-time education on a more or less continuous basis. The 64,000 hours or so of lifetime work under the emerging system of 35 hours per week, with a month's vacation plus scattered holidays, from age 22 to age 62, could alternatively be arranged so that a person works 28 hours a week, with two months' vacation per year and a year's leave every decade, from age 22 to age 82. If median lifespan approaches a century, that would still leave 18 years of retirement.

One of us (Vaupel) just had a baby daughter, Anna. In a companion article,[13] various estimates were calculated of her life expectancy. If progress is made against mortality at a rate of 2 per cent per year at all ages, then Anna's life expectancy is 102 years. This makes the year 2080 seem closer—Anna may well be alive then—and makes the changes discussed in this paper more immediately relevant—the changes are not only going to affect future generations but also people alive today. Indeed, as noted earlier, one of us (Gowan) may well be alive in the year 2080, at the advanced but not impossibly implausible age of 117.

Anna is going to have to decide, with some help from her parents, what kind of education she wants. Our hunch is that she needs an education that enables her to keep learning, because society and technology will change dramatically in her lifetime. In addition, she would probably benefit from a solid liberal arts education—in music, the arts, literature, history, the great books of philosophy and science—because this background, which helps a person maintain an active interest in life, is more readily acquired in youth than in old age. Finally, her education should certainly include an education in health, including knowledge of how personal behavior can affect health. Deleterious habits and addictions acquired in youth become even more tragic if they terminate what could have been a century of healthy life or if they bring on disabilities that last not for years but for decades.

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Representative **Scheuer**. Thank you very much, Mr. Vaupel. I'm going to yield to my colleague Tom Downey, who serves on the Ways and Means Committee, and who is very much concerned with all these health problems and funding for these programs. Congressman Downey.

Representative **Downey**. Thank you, Jim. I'm not a member of the Joint Economic Committee but I am a member of the Aging Committee. As a matter of fact, I'm one of the more senior members of the Aging Committee, if you can believe that.

I just have a couple of questions. It seems to me, Mr. Vaupel, that you really hit it on the head and, with all due respect to our friends in the Bureau of the Census and the Social Security Administration, I remember in 1977 voting the final fix on Social Security and then in 1983 voting once again for its final fix. I'm afraid that sometimes even our best estimates come a cropper.

It seems to me also that as we begin to further unlock the mysteries of DNA it's possible that we could learn how to retard the aging process or reverse it so that people who are 60 may not look or appear or act like they're 60. So there are important ethical questions to be considered.

I would just like to ask the two gentlemen a question regarding, I guess, Mr. Vaupel's point. Given the uncertainty as to the demographic projections, it's quite clear that the oldest of the old are growing older, and that that is almost immutable, save for some catastrophe of biblical dimension. Given that realty, there are a couple of things that we can do.

We can spend more understanding dementia than we do now. We can spend more money trying to deal with incontinence. In the area of public health we can do a lot more in terms of helping people to grow old and preparing their lives for death.

I'm thinking of respite care, care for people with Alzheimer's disease and loved ones that are not institutionalized.

Do you disagree with the view that, given the uncertainty of the data, and in terms of the research on the important questions of aging, spending far more of our resources than are currently being expended on those matters can make a difference and should be done?

Mr. **Vaupel**. I would agree wholeheartedly with that. It seems to me that because the population of the elderly is growing so rapidly that we should be spending much more money on doing the basic kind of research to improve the health of the elderly and make their lives better off.

In terms of the Social Security system that you alluded to earlier, Congressman Downey, if you think about the elderly from the perspective of my daughter, Anna, and ask—and sometimes when you're thinking about the long-term future, it's useful to think about people who will be living in the long-term future—the question would arise how would she like to spend her life and what would she like us to be doing now for her as she gets older? And from that perspective, I would agree with Mr. Keane's quote of Aristotle that the best thing we can do for her right now is give her an education that will enable her to enjoy life for 100 years, to avoid being bored if you have a 100-year life, and also we need to start preparing for her to have continuing learning over the course of her life so that she will be able to work much longer. People will not want to retire at age 65 if they're going to live to 100. There should be that kind of continuing learning.

Representative DOWNEY. Well, they may not be able to retire at 65. It just wouldn't be according to the statistics. It's likely that the work force will just have to work longer in order to sustain the older population. Is that an unfair statement?

Mr. CAROZZA. Well, Congressman Downey, being on the Social Security Subcommittee, you know the retirement age is already scheduled to increase to 67 in the next century.

Representative DOWNEY. Ironically, only the members of the Ways and Means Committee supported that actively and managed to get it passed on the floor. It was just buried in a blizzard of statistics.

Mr. Binstock, could you comment on the question of research briefly, if you agree or disagree?

Mr. BINSTOCK. I agree very much with the thrust of what you were saying in terms of priorities. The only qualifier I would put in is with respect to what I heard you describe as palliative care. I would hate to see the funds for that come from funds for life-saving care, as this guy who calls himself a medical ethicist has proposed—Callahan—in terminating people's lives when they are in their late seventies or have lived their natural life.

But I do think that investment in that area similar to what we do with hospices, run at relatively low costs, would be very, very sensible.

Representative DOWNEY. Thank you, Mr. Chairman.

Representative SCHEUER. Thank you, Congressman. We appreciate your coming here.

WORKER-RETIREE RATIO

The retirement age has been increased 2 years although there's lots of evidence that more and more people are taking early retirement. With this extraordinary advance in longevity and this vast increase in the population over 85 and even over 100, won't the ratio of working people to retired people fall? Won't there be far fewer working people per retired person unless we advance the age of retirement, defer the age of retirement and lengthen the working period in a person's life in some comparable way to the exponential increase in life expectancy and the exponential growth of these oldest of the old groups? Everybody is nodding. Aren't we looking for a real generation confrontation here unless as people grow older we preserve something like the present percentage of their total living years as work years?

Mr. BINSTOCK. Well, to follow positively along the line you suggest, I would point to Japan which had a traditional retirement age of 55 and through a variety of measures has pretty much gotten the average age of retirement up to what ours is, around 60. They have done that through negotiations between management and labor, through about 25 different kinds of incentives provided by the national government to firms to retain older workers in one way or another, and so on.

On the other hand, to not flow positively with your suggestion, I would observe, as you did, that two-thirds of the people who are on Social Security in this country opted to take it as an early retirement benefit. Now there is good research being done on that which shows a mixture at the moment. There are feelings of ill health or their stated feelings of ill health and incapacity to do the job and, on the other hand, the benefits available to them. We know that the early retirement incentive programs have been overwhelmingly responded to in the corporate sector by workers in their late fifties surprising the firms that offered them.

So I would think that in the context of the United States, maybe the more useful thing to look to is whether or not we need to finance Social Security and other programs through payroll taxes. There's nothing written that says we do and I suspect if we didn't finance Social Security through a payroll tax but through many other possible taxes, we wouldn't be talking about how many workers it takes to support a retiree any more than we would be talking about how many workers it takes to support a flight of Air Force 1. It's purely the earmarked tax and it may have been essential in 1935. I'm not sure it is essential now.

I think the real issue will be can we tax the American economy for transfers?

Mr. VAUPEL. If it turns out that life expectancy goes up to age 100, it will gradually increase over the next few decades, then enormous pressure would be put on the Social Security system, much greater pressure than is currently predicted by what are considered to be very conservative actuarial forecasts. In addition, many Americans are electing to work longer. There have been a lot of disincentives to working longer, also some barriers to working longer that are coming down now. And if you think about the question from the point of view of an individual trying to plan his or her life, why would you want to live your life where you spend 20 years getting educated, 40 years working very hard, and then 40 years doing nothing? It just seems like a crazy way to spend the time of your life.

Also, you probably wouldn't want other people to spend the time of their life that way because during the 40 years in which you were working, if you followed Mr. Binstock's suggestion, there would be an enormous tax burden no matter how it was levied on the people who were working to support the equal numbers of people who were not working. So there would be very, very large transfers.

So my guess is that somehow or other we're going to gradually—this will all take place gradually, but we're going to gradually shift to a system where people work much longer but fewer hours per week or maybe like professors they take longer vacations or they take sabbaticals. There will be a mixture of leisure and work over the course of people's lives. I think that will be one of the main consequences of aging in the American population.

ENCOURAGING POST-65 ACTIVITY

Representative SCHEUER. Maybe there's a clue, Mr. Binstock, in the Japanese example that you gave us. The Japanese people really don't retire at 55. They never did. A Japanese executive will retire from Sony or Mitsubishi and then he gets his retirement benefits in one fell swoop and then he'll go out and buy a little soba factory and he'll make noodles and he'll sell noodles or he'll open up a little restaurant or bar or a traditional Japanese hotel. But after their corporate lives are finished, they begin another career.

Mr. BINSTOCK. Absolutely.

Representative SCHEUER. Which I think would reflect what we intuitively know that—very few of us want to live for 40 years and do nothing. Look at the growing percentage of Members of Congress who are over 65. Almost all of them could quit and make more doing nothing than they now make working their tails off. But they don't because they couldn't cope with the idea of doing nothing.

Admittedly, it's supposed to be a very interesting, stimulating life and it sort of keeps you going and keeps you vigorous, but I think people generally don't want to go from an active working life to no work at all, which would lead to the question of what do we do to break down the barriers and break down the disincentives to continue to work on some basis—flextime, part time, shared jobs, 6 months a year, 3 days a week, mornings, and afternoons.

What do we do to make it easier—to facilitate the process of people at their retirement, be it 65 or whenever, to phase into some other kind of activity, remunerative activity, that is rewarding? It may be a change from what they've done. How do we break down the barriers to that and actually facilitate it?

For example, with this extraordinary expansion of the elderly and the elderly elderly—those over 85—looming up ahead of us, how about a concept of enabling the elderly well to take care of the elderly frail, the elderly sick? Who understands the problems of an elderly frail or sick person better than an elderly well person? Who would be more sympathetic? How do we keep people post-retirement, post-formal-job years, in some kind of active participation in society?

Another possibility is for elderly people to help with the problems of literacy, both the working population where we have an adult working population that's about 25 percent illiterate, as well as kids in school who are having trouble with their reading and who are on the slippery slope to dropout if something doesn't intervene and sometimes the best kind of intervention is the one-on-one relationship with a caring person who can read.

There seems to be a whole variety of options out there for the elderly well post-65. What should we be doing to make some really interesting job options attractive to them and appropriate for them and real for them?

Mr. BINSTOCK. Literally 20 years ago, I turned in a book this thick to President Lyndon Johnson and I'm about ready to go back to it now—34 proposals, including one scheme that dealt with those latter items you're talking about. Maybe I'll try and dust it off and update it to develop the equivalent of the armed forces, a confederated force, of people who could serve each other around the country. There are a lot of jobs that need to be done and cannot be filled. And I think there's merit in the public sector activity dealing with such matters as education and human services and various ways we could support it as a national service.

On the question of firms, even then, amazingly, 20 years ago, on this White House Task Force on Older Americans, we had flex-time, shared this and that, phased retirement, and all these things you could come up with. But the issue was the firms really didn't want to do it, and was it time for the Government to step in and give them an incentive to do it.

My own view—others may feel differently—is that for those sorts of things the Government shouldn't provide an incentive; that the firms will in fact do it as they find that they need the work force. For example, Poloroid has been doing something like this for 8 to 10 years and in Japan they do this with something called "silver-haired manpower centers" or "silver manpower center," that they organize and then draw on as pools. And I suspect if we become short of workers for various types of firms, they will find ways to draw upon those people effectively.

Mr. Carozza. Mr. Chairman, one of the impediments to Americans age 65 to 69 to working is something in the Social Security law called the retirement earnings test. You've probably heard a lot about this. Basically, if you're age 65 to 69 and you go back to work and earn over about $8,400 a year now your Social Security benefits are reduced by $1 for every $2 you've earned.

Representative Scheuer. Is that up to $8,400 now?

Mr. Carozza. It's $8,400. That's the exempt amount. Of course, if you're over age 70 you can earn any amount and continue to receive your benefits.

We're looking at ways to eliminate that. We're studying that and also ways to put into effect sooner a change the Congress made a number of years ago to raise the delayed retirement credits so that there's an incentive for people to continue working longer.

NOTCH BABIES

Representative Scheuer. Talking about some of these benefit amounts, has any thinking been done on the problem of the "notch" babies? That is a problem in 435 congressional districts and 50 U.S. senatorial districts.

Mr. Carozza. Well, Mr. Chairman, I've had to testify on that issue two times in the last 2 months before Congress. It's not only a problem all across the country. My mother-in-law, of course, is a "notch" baby, so I hear it a lot at home. Basically, the "notch" was created when in 1972 Congress put into effect a new formula for computing Social Security benefits. It was a flawed formula. Congress went back in 1977 and corrected that formula. If we had not corrected it, some people would be earning benefits that would exceed their preretirement income.

Congress didn't want to take away benefits from anybody who was getting those windfall benefits. That's basically the people born from 1910 to 1916, but they let those people keep those benefits which were too high.

Representative Scheuer. The "notch" babies I'm talking about are the cohorts from 1917 to 1921.

Mr. CAROZZA. To ease the transition from the flawed formula to the formula that Congress had originally intended in 1972, Congress put in a 5-year transition period to smooth that transition out and, in fact, people in that 5-year period either get the new formula or the transition formula whichever is higher. In fact, in terms of Social Security replacement rates, that is your retirement income as a percent of your preretirement income, the "notch" babies are in fact getting higher Social Security replacement rates than any group that follows them and they're getting higher replacement rates than any group that came before them except for the people born 1910 to 1916 who are getting windfall benefits.

Representative SCHEUER. Well, that's not strictly a health matter. Does anybody else have any ideas on what we could do to enhance the viability, and the acceptability of the work option in some kind of remunerative employment after retirement?

[No response.]

ENCOURAGING POST-65 ACTIVITY

Representative SCHEUER. All right. Let me ask, what is the cost of eliminating this disincentive to work, this test that you were talking about?

Mr. CAROZZA. The retirement earnings test?

Representative SCHEUER. The retirement earnings test of $8,400. Supposing we simply eliminated that, how much would that cost the Federal Treasury?

Mr. CAROZZA. I don't have those figures. It would be several billion dollars a year. Of course, we're looking at ways to offset those additional costs.

Mr. VAUPEL. There's one other option that might be considered by Congress and that is currently people who elect to keep on working and not retire when they can are still taxed for Social Security. In other words, people who could have retired and received Social Security benefits are still paying Social Security tax if they keep on working, and that tax, which is matched with the employer's contribution, is actually a fairly large tax on them and is a disincentive for them to keep on working.

Congress might consider repealing the Social Security tax on people who are eligible for Social Security.

QUALITY OF LIFE

Representative SCHEUER. Let me go back and ask a question about morbidity and mortality. Mr. Vaupel, you asked this question about your 4-year-old daughter. As life expectancy is very substantially and apparently very rapidly being increased, what is the quality of life prospect for these folks for those additional years? You stated it very well. Are they going to be healthy until the year or the year before they die and then simply die? If I had a blackboard here I could draw a chart—is their health going to look like that with a precipitous fall, or is it going to be gradual deterioration over a period of several decades?

Mr. VAUPEL. The only honest answer to that question is we don't know what's going to happen in the future in terms of morbidity trends.

The evidence right now is very mixed, in part because we don't have very good data—not enough very good data—and in part because it's difficult to decipher what data we have. Apparently disability and morbidity trends among the elderly are fairly stable so that there is neither a big increase in disability nor big decrease in disability. But the reason for that might be the following, that we're making progress against mortality so that people who previously would have died are now living but they may be living in a disabled state, but the people who previously would not have died may actually be healthier, so we may actually be making quite a lot of progress improving health among the elderly despite appearances. The data are inadequate. We just need more research on this very important question.

Representative SCHEUER. Do any of you have any idea of programs that might help the individual through self-help, through taking control of their own health outcomes. Some obvious things would be concern about diet, exercise, tobacco, alcohol, avoidance of drugs, avoidance of dangerous situations. These are the obvious ways in which we can take charge of our own health outcomes and improve them significantly at very little cost.

Are there any other ways that people can take some reasonable steps to assure that their extended life will be a healthy active life and not a constantly deteriorating life filled with crippling and disabling diseases, a whole succession of crippling and disabling diseases?

Mr. BINSTOCK. This is a very simple item, but one of the biggest is falls that lead people into dependency. It's remarkable if you go around people's homes—the throw rugs they have, the pools of light they move from, light to dark, and so on. If we could educate people about just making their own home environment safe, it would be a tremendous improvement right there because almost a third of the incidents that bring older persons into the hospital are related to falls.

Representative SCHEUER. Is there any source of information on all the things one can do to improve the safety of one's home?

Mr. BINSTOCK. Like a pamphlet or something?

Representative SCHEUER. Is there such a thing?

Mr. BINSTOCK. I don't know for sure.

THE INTERAGENCY AGING-RELATED STATISTICS FORUM

Representative SCHEUER. Does anybody know?

Mr. HARRELL. The Consumer Product Safety Commission has a really nice brochure for making homes safe for the elderly, dealing not only with drugs and that kind of thing, but lighting staircases and so forth.

Representative SCHEUER. Very good. We're going to hear about that in the second panel I'm told.

Does anybody else have anything to add. This has been a very interesting panel and we very much appreciate your testimony. Does anybody have any final remarks to make?

Mr. KEANE. Mr. Chairman, you likely know, but all of us should be aware, that along with two other agencies, the Census Bureau, the National Center for Health Statistics, and the National Institute on Aging, have formed the Interagency Forum on Aging-Related Statistics. Friday will be our next meeting. This involves cochairing by those three agencies with the three directors, and our purpose, along with the approximately 30 agencies that are members of that, are to: First, provide the kind of information that sometimes is inferred here and sometimes out and out asked for on demographic, social, economic, epidemiological, and health issues. We are doing that to identify gaps where we need data. Second, we want to find overlaps so that we can pare back or cut out or somehow make our investment more efficient and more pertinent to the policymaking issues at hand.

We are also trying to improve our coordination through this forum and joint cooperation. For instance, publications, these three here, all on aging that have come out in the past 18 months from our agency, and the other agencies too. So that effort of the Interagency Forum on Agency-Related Statistics the record ought to note.

Representative SCHEUER. Very good. That's very helpful. Are they going to be giving Congress their consensus on the kind of additional research that ought to be done?

Mr. KEANE. Well, that certainly comes through the budget process where it involves a request, but it also comes out in hearings such as this and in other hearings, and it takes the form of conferences and speaking appearances.

So in a variety of ways it's getting out and I should point out that we are only 2 years into the effort, but among the 30 agencies, for instance, is—the Social Security Administration; all but several of the National Institutes on Health; Housing and Urban Development; Veterans' Administration; Bureau of Labor Statistics, et cetera.

QUALITY OF U.S. STATISTICS

Representative SCHEUER. Let me ask you, since we got to talking about statistics—of course, U.S. statistics for generations really have set the world standard, but the Joint Economic Committee in a recent report said, "Unfortunately, trends since 1980 have raised questions about our commitment and capacity to maintain the high quality of existing statistical programs." Would you care to elaborate on that?

Mr. KEANE. Well, we have had to set our priorities and sometimes revisit them, speaking for the Census Bureau which is the largest but there are certainly a number of other Federal statistical agencies. So we have had to reset our priorities and occasionally due to budget restraints we've had to shave programs. By shaving programs, we pretty much have done it across the board. I mean, sometimes not doing as many detailed breaks and we've curtailed some of the frequency of the reports. We've had to cut the size of the sample for a survey here and there.

At the same time, I should say that we are increasing our statistics on the aging population. For example, we will be showing more age detail in the 1990 census. We're doing more cross-tabulation. We're doing more detail on race and gender. We are adding questions on congregate housing for the 1990 census and on disability and limitations to disability—asking those questions.

While there is some curtailment in other areas, as far as aging-related statistics, there's an increase. There's increased attention. There's increased priority. There's increased coordination and the expectation and the hope are for more of the same.

Representative SCHEUER. You are undoubtedly aware that there's been great concern among demographers, among people who are studying changes in national trends in demography, that you have eliminated several questions that professionals outside of the Census Bureau felt were very key questions, the omission of which would cause really important and significant gaps in our knowledge of who we are and how we came to be and where we come from.

How do you react to the extreme unhappiness among the demographic community about some of the cuts in the questions that you have made?

Mr. KEANE. I know of the displeasure of not only demographers but other groups when it was proposed that there be a substantial cutback in the 1990 questionnaire. But that has since been through a process of discussion and deliberation and we have pretty well restored many of the questions and most of the sample size that was proposed for cut. That is cut on the long form question. The questionnaire is essentially, with a couple of cuts, essentially the size of the 1980 questionnaire and there is the respondent burden to be concerned. All of us who fill out questionnaires are likely concerned with that.

So we go through the tradeoff of respondent burden and the importance of getting quality data so we don't want to fatigue people. It's a rather elaborate process how we decide what to ask and when. It's stated criteria and a whole lot of experience.

Representative SCHEUER. But you are assuring me that most of those cuts have been negotiated out and questions restored?

Mr. KEANE. Most of the questions, they've either been added or they have been shifted from the long to the short form or otherwise restored.

Representative SCHEUER. Let me ask you, Mr. Keane, Mr. Carozza, or Mr. Vaupel, why do you all think that the Social Security actuarial assumptions have apparently been so overly optimistic?

Mr. VAUPEL. Well, the assumptions are optimistic—the financial assumptions are optimistic I think because the mortality assumptions are pessimistic. The reason the mortality assumptions are pessimistic is because it's very, very difficult to extrapolate into the future what kind of progress we will be making against mortality in very old ages.

The increase in life expectancy in the United States today is largely due to the fact that we're making rapid progress in decreasing mortality rates among very old people and in particular we're making rapid progress above age 85. But it's very, very difficult to get a good fix on how much progress we're making above age 85 because we have such poor data. The natural tendency of an actuary is to be a little conservative to assume that the very rapid rates of progress we're making today will gradually decline rather than making the more radical assumption that the rates of progress we're making today might accelerate.

Representative SCHEUER. Mr. Carozza.

Mr. CAROZZA. Mr. Chairman, we have the Social Security Administration's actuary with us today, Mr. Harry C. Ballantyne, and I think I'd like to let him respond to that.

Representative SCHEUER. Very good.

Mr. BALLANTYNE. Mr. Chairman, I would be the first to agree that what we know about the next 75 years, which is the length of our long-range projection period, is uncertain and the one certainty is that whatever we estimate will be wrong.

But that's one of the reasons why we have a range of estimates. We look at a fairly wide range with the intermediate set of estimates reflecting what we and the trustees consider to be the most likely, or realistic, estimates.

I think we do very good research analyzing past experience in the office of the actuary. With respect to mortality rates at the older ages, since about 1966 when the medicare program began, the older people who were not eligible for Social Security at the very old ages have been included under medicare through a transitional provision. Since then, we have been looking at the mortality rates for that age group as well as for the Social Security beneficiaries. While we do not have all the data we would like for the older ages, we do have the most exhaustive data available on which to base a projection of mortality rates even among the older ages.

Representative SCHEUER. When you make your projections for the mortality rates, do you include the kind of ranges that Mr. Vaupel was suggesting this morning?

Mr. BALLANTYNE. Our range is not that wide. To give you an idea, for life expectancy say in the year 2065, which is the last year for which we've shown an estimate, under our most pessimistic assumptions for the cost of the program, which includes the greatest increases in life expectancy, we estimate 82 years for males and about 89 years for female at birth.

Representative SCHEUER. He thinks his daughter is going to do a heck of a lot better than that.

Mr. BALLANTYNE. We hope he's right.

Mr. VAUPEL. If I can just respond, I think a judicious person would have to admit there's a lot of uncertainty, as Mr. Ballantyne has said, and the assumption that my daughter would live 100 years is based on the notion that we'll be able to reduce mortality rates at older ages at about the rate we've been reducing mortality rates at younger ages over the course of this century.

I know very often people who listen to forecasts would like to have a single number and it's just not possible to get a single number in this case, and I think there's probably consensus that there is a wide range and that it's certainly possible that we will be making progress against mortality in older ages that might yield a much, much larger older population. So policies should be designed by decisionmakers that are flexible enough to take into account this very wide range of uncertainty and support should be given for research by actuaries and by demographers and others in order to try to narrow that range of uncertainty.

Mr. KEANE. Mr. Chairman, may I say something about forecasting?

Representative SCHEUER. Certainly.

Mr. KEANE. The comment was made and I think this may be the only chance I get to talk about it. The Census Bureau does not forecast, period; not in population nor any other of the 250 programs which make up our effort.

What we do is population projections. Now this isn't splitting hairs, but it seems to be with most who hear it. The difference is a forecast is the most probable outcome—a single number, for instance—whereas a projection is a range and you pick whichever number you want based on whether you buy or change the assumptions that underlie that number.

Therefore, we do projections and to the extent that someone would agree with the assumption, they would agree with the projection. But we never do forecasts. The basis of our population projections is based on four variables—births, deaths, immigration, emigration, or net migration. I think that we can do better and have led a program to study the admission of other than demographic variables. That is, economic variables, into the process. It's a very sensitive thing. It's highly technical, but we ought to be flexible enough to at least consider that possibility to study it and perhaps experiment with that and we are.

Representative SCHEUER. Cynthia Taeuber, do you have anything to say? We haven't heard from you yet?

Ms. TAEUBER. It's interesting to think about life expectancy to 100 years. We have done a little bit of research on what would have to happen to mortality rates to get to 100 years. There's a bit in a paper that Jay Siegel and I did and we can submit that later if you like.

[The following information was subsequently supplied for the record:]

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Demographic Perspectives on the Long-Lived Society

THE UNITED STATES HAS a rapidly growing older population whose share of the total population is steadily rising. The number of elderly (sixty-five years and over) has more than doubled since 1950 to about 28 million in 1984, and the number of the older aged (eighty-five years and over) has more than quadrupled since 1950 to 2.6 million. From a mere 8 percent in 1950, the percentage of elderly in the population climbed to 12 percent in 1984. By 2020, about 17 percent of the total U.S. population will be elderly, the same proportion as in the most "elderly" state today, Florida.

For the present essay, population aging will be defined simply as a rise in the proportion of the population sixty-five years old and over. *Population aging* is a characteristic of population groups and is influenced by changes in mortality, migration, and, especially, fertility. In contrast, *individual aging,* measured for population aggregates by a rise in life expectancy or survival rates, is a characteristic of individuals summarized for populations. Individual aging is determined wholly by death rates at each age of life. In the United States, population aging is associated with low and declining mortality, but this relationship is not a necessary or intrinsic one.

The elderly population is a demographically heterogeneous group that includes a wide range of ages and sharp variations in the characteristics of the members of the component ages. In addition, there is rapid turnover in this population, mortality rates being relatively high: a younger group enters the "elderly" age range, and each age group among the elderly moves up to occupy a new and higher age category as the former occupants age or die. These new members may have quite different characteristics from those they replace. Variations also occur in the size of age (birth) cohorts, survival rates, and the share of immigrants in each cohort. As a result, substantial shifts take place in the characteristics of each constituent age group and of the elderly population as a whole. In fact, the shifts in numbers, age distribution, sex composition, health status, marital status, and economic characteristics may be considerable.

POPULATION AGING

U.S. Population Aging

The elderly population of the United States is growing much more rapidly than the population as a whole. The population sixty-five years and over increased by 28 percent in the decade of the 1970s, and the 85-and-over group increased by 59 percent compared with an 11 percent increase for the population as a whole. These growth rates can also be compared with an increase of 54 percent for those 30-to-34 years of age, the group in 1980 representing the first wave of the "baby-boom" cohorts. The older aged are currently, in fact, the fastest growing age segment of the U.S. population.

Past changes in the number of births are usually the most important influence on later changes in the numbers at each age in a population, although improvements in the chance of survival and shifts in the volume of net immigration play a part. The number of elderly persons in the United States has been growing rapidly in the past several decades, mainly because of the increases in the annual number of births before 1921, but also because of the greatly improved chance of survival to old age. Because the elderly of the future (at least for sixty-five years ahead) have already been born, it is now possible to anticipate the future size of the older population with much greater confidence than age groups still to be born.

From 1921 to 1945, the annual number of births was declining, or was low, in comparison with the years before 1921. This turnaround accounts for the fact that up to about the year 2010 we can expect a period of sustained but undramatic growth in the elderly population. Then, as the postwar baby-boom cohorts of 1946 to 1964 first begin to reach age sixty-five, the number of elderly persons and the ratio of elderly persons to younger persons will rise dramatically. From 2010 to 2030, according to the U.S. Census Bureau's middle series of projections, the population sixty-five and over will increase from 39 million to 65 million. (See table 1, next page.)

The growth of the overall elderly population, and particularly of the younger segment of the elderly population, will then decelerate beginning about 2030, as the persons born in the "baby-bust" period (1965 on) begin to reach age sixty-five. At the same time, the baby-boom group will swell the size of the 85-and-over population. Society will continue to feel the impact of the baby-boom cohorts from about 2030 to 2050 as they reach age eighty-five. In 2030, this older segment of the elderly population is expected to number nearly 9 million (middle series), and in just two additional decades could grow to 16 million. With greater reductions in mortality rates than now anticipated in the middle projections, even these figures would understate the size of the future older aged population.

The elderly population has grown steadily as a share of the total U.S. population. In 1920, every twenty-second American (4.6 percent) was sixty-five years or older; the proportion had increased to every twelfth person (8.1 percent) by 1950; and to every eighth to ninth person (11.8 percent) by 1984. By 2030, we can expect at least every fifth American to be elderly. (See table 2, page 82.)

Changes in the percent age distribution of a population are also affected more by changes in fertility than by changes in mortality. Changes in the proportion of elderly are directly affected both by fluctuations in the number of births sixty-five or more years earlier and by trends in the birthrate in the intervening years. The number of births showed marked increases, or was relatively high, from 1946 to 1964; continued low birthrates, together with declines in death rates that are concentrated at the older ages, are projected for 1985 to 2030. This combination of conditions will lead to sharp increases in the proportion of elderly persons during the 2010–2030 period. Immigration will increase the numbers in the various age groups but will affect the age distribution very little. The larger the volume of immigration, the lower the proportion of elderly persons.

Even as the proportion of elderly persons has been rising, so the elderly population itself has been getting older, with an increasing share over age seventy-five. This trend is expected to continue, at least until the first decade of the next century. Once the baby-boom

TABLE I. Population 65+ and Annual Average Increase, 1950 to 2050, as of July 1 (Numbers in thousands)

Year	Population	Average annual increase in preceding period Amount	Percent
1950	12397	x	x
1965	18451	404	2.7
1984	28040	505	2.2
Middle series[1]			
1995	33887	532	1.7
2010	39196	354	1.0
2030	64580	1269	2.5
2050	67412	142	0.2
Highest series[2]			
1995	34618	598	1.9
2010	42067	497	1.3
2030	72587	1526	2.7
2050	82744	508	0.7
Lowest series[3]			
1995	33127	462	1.5
2010	36547	228	0.7
2030	58085	1077	2.3
2050	56336	−87	−0.2

SOURCE: Based on various *Current Population Reports* of the U.S. Census Bureau: series P-25, nos. 311, 519, 917, 952, and 965. The projections are presented in "Projections of the Population of the United States, by Age, Sex, and Race: 1983 to 2080," by Gregory Spencer, *Current Population Reports*, series P-25, no. 952, May 1984.

[1] Middle fertility, middle mortality, middle immigration.

[2] High fertility, low mortality, high immigration.

[3] Low fertility, high mortality, low imigration.

cohorts begin to reach age sixty-five, the trend should reverse itself, until these cohorts reach age seventy-five. At its initial peak in 2005 or so, the share of the 65-and-over population that is seventy-five and over will be about 51 percent, compared with 41 percent today. At its second peak in 2050 or so, the share will exceed 55 percent. (See table 3, next page.)

The trends described are important because the elderly, particularly the older aged, require a disproportionate level of services and account for a disproportionate share of the public budget. A greater concentration of elderly at the higher ages will have important implications for their general welfare and for planning for their needs, considering especially the relatively greater frequency of chronic, debilitating health conditions and the greater requirements for extended care among the older aged. With the increases in the number of old people, chronic illnesses will probably become more prevalent, although much depends on life-style, technological developments, health-care delivery practices, and other factors.[1]

Societal Dependency Ratios

Public policy issues often arise with changing balances of numbers in different age groups. Broad changes in the age structure are reflected in the gerontic dependency ratio, which shows the number of persons sixty-five years and over per hundred persons of "prime working age" (twenty to sixty-four years). At present, there are about twenty persons sixty-five years and over for every hundred persons of prime working age. By 2030, after all the baby-boom cohorts have become members of the elderly group, this ratio is expected to nearly double. (See table 4, page 83.) The neontic dependency ratio—the ratio of those under twenty years old to hundred persons age twenty to sixty-four—is expected to show only a moderate decline in this period, from fifty-one to forty-four. By 2050, the gerontic dependency ratio and the neontic dependency ratio may be approximately equal for the first time (40 vs. 42). The net effect of this rise in the gerontic dependency ratio and smaller decline in the neontic dependency ratio will be a substantial rise in total dependency by 2050.

Dependency ratios indicate the contribution of the age composition of a population to society's problem of economic dependency. Variations in the ratios also suggest the periods when the age distribution is likely to make a significant contribution to the

TABLE 2. Percent of Total Population 65+, 1950 to 2050, as of July 1[1]

Year	Percent
1950	8.1
1965	9.5
1984	11.8
1995	13.1
2010	13.8
2030	21.2
2050	21.8

TABLE 3. Population 75+ as Percent of the Population 65+, 1950 to 2050, as of July 1[2]

Year	Percent
1950	31.5
1965	35.6
1984	40.3
1995	45.4
2010	48.2
2030	46.5
2050	55.3

SOURCE: Based on various *Current Population Reports* of the U.S. Census Bureau: series P-25, nos. 311, 519, 917, 952, and 965. The projections are presented in "Projections of the Population of the United States, by Age, Sex, and Race: 1983 to 2080," by Gregory Spencer, *Current Population Reports*, series P-25, no. 952, May 1984.

[1] Figures include U.S. Armed Forces Overseas. Projections are from middle series.

[2] Figures do not include U.S. Armed Forces Overseas. Projections are from middle series.

TABLE 4. Societal and Familial Age Dependency Ratio, 1950 to 2050, as of July 1[1]

Year	Total[2]	Societal Dependency Ratios Neontic[3]	Gerontic[4]	Familial Dependency Ratios One elderly generation[5]	Two elderly generations[6]
1950	73	59	14	116	12
1965	95	77	18	135	17
1984	71	51	20	194	29
1995	70	48	22	142	42
2010	65	42	23	126	56
2030	83	44	39	242	47
2050	82	42	40	224	96

SOURCE: Based on various *Current Population Reports* of the U.S. Census Bureau: series P-25, nos. 311, 519, 917, 952, and 965. The projections are presented in "Projections of the Population of the United States, by Age, Sex, and Race: 1983 to 2080," by Gregory Spencer, *Current Population Reports*, series P-25, no. 952, May 1984.

[1] Figures include U.S. Armed Forces overseas. Projections are from the middle series.

[2] $\frac{\text{Population under 20 years + population 65 years and over}}{\text{Population 20 to 64 years}} \times 100$

[3] $\frac{\text{Population under 20 years}}{\text{Population 20 to 64 years}} \times 100$

[4] $\frac{\text{Population 65 years and over}}{\text{Population 20 to 64 years}} \times 100$

[5] $\frac{\text{Population 65 to 79 years old}}{\text{Population 45 to 49 years old}} \times 100$

[6] $\frac{\text{Population 85 years and over}}{\text{Population 65 to 69 years old}} \times 100$

problems of providing health and social services, Social Security benefits, adequate housing, and satisfying jobs for the elderly, and when the possible competition between the elderly and children for societal support will be greatest.[2]

International Perspective

Aging of the populations of the world's regions is nearly universal.[3] Yet the older population (sixty years and over) in some less developed regions will still be a relatively small proportion of the total population in 2020 (e.g., 6 percent in Africa). In contrast, the proportions for Northern America and Europe (21 and 23 percent, respectively) will be quite high. The relative "youth" of the less developed regions is essentially a consequence of high fertility, offset in part by low survival to old age in most regions. The relative "agedness" of the more developed regions is associated with a pattern of continuing low fertility, past rises in the number of births, and low mortality characteristic of both the earlier and later stages of life.

The more developed regions also have a greater share of aged persons among the older population than do the less developed regions. In Europe, for example, about two-fifths of the population sixty years or older is seventy years or older, compared with just over a third in South Asia and Africa. In most regions, as in the United States, the older segment of the elderly population has been increasing at a faster pace than the younger segment. Low fertility and mortality give rise to populations that are not growing ("zero population growth") and to age structures that are approaching stationarity (i.e., a fixed shape and zero population growth). Several countries in Western Europe are now losing population (e.g., West Germany, Denmark, Great Britain) and will soon reflect the higher percentages of elderly persons shown by stationary populations with high life expectancies (e.g., 17 percent above age sixty-five when life expectation is seventy-four years).

The care of the elderly, traditionally the responsibility of the family, has already shifted in many of the more developed countries, to more societal responsibility. This shift has become a necessity born out of the reality of major changes in the structure of the family, the costs of health care, the nature and degree of care required by chronically ill aged persons, and the numbers of persons needing care.

Decreases in fertility, leading to declining numbers of births, mean that a smaller number of persons of working age will be available to provide the services the elderly need. This is already a problem in several more developed countries, such as West Germany and Japan.[4] In West Germany, the ratio of retired persons to workers is the highest in the world, and Japan is now experiencing the most dramatic increases in this regard. These countries face the prospect of allocating a much larger portion of their budget to social security benefits at a time when the population will be less able to save and invest and, hence, to support such programs.

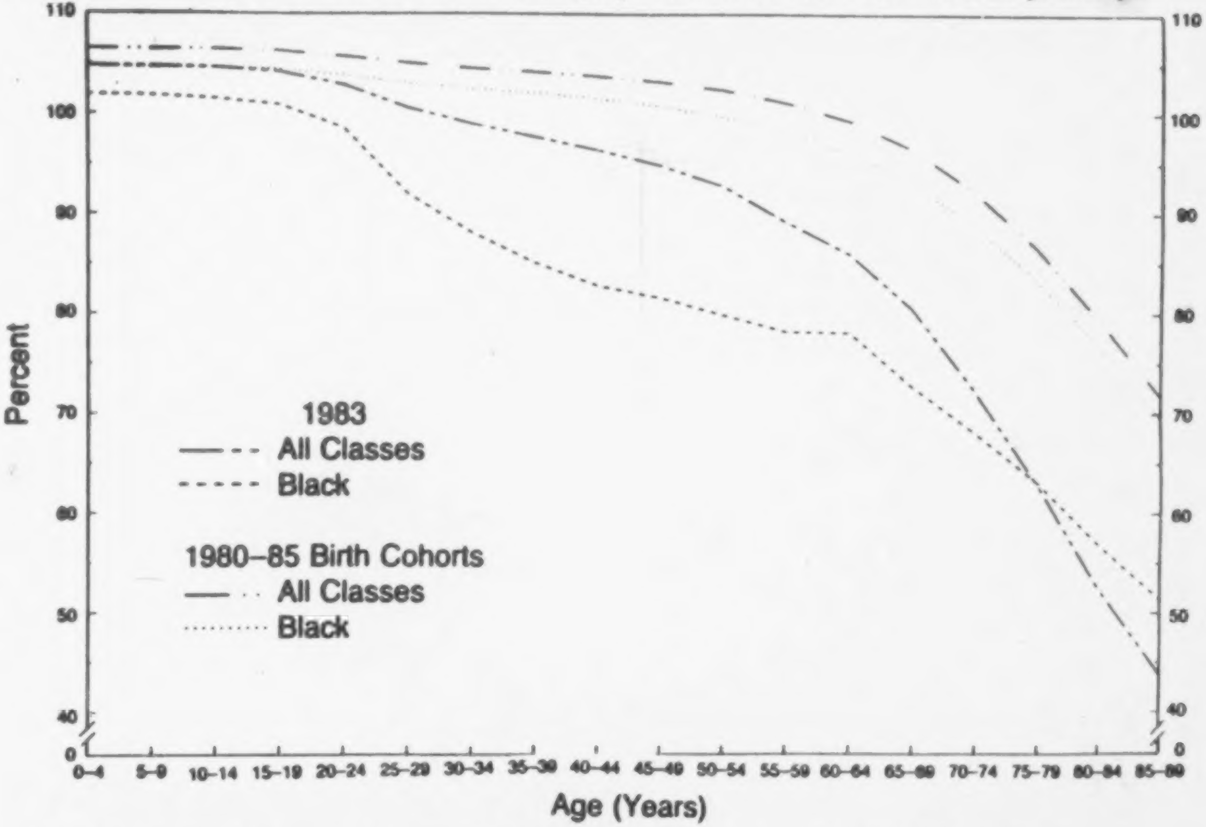
Sex, Race, and Ethnic Composition

Elderly women in the United States now outnumber elderly men three to two (corresponding to a sex ratio of sixty-seven men per one hundred women). This represents a considerable change since 1930, when there were about an equal number of elderly men and women. The deficit of males grows steadily with advancing age, following an initial excess of boys among births and at the younger ages. (See figure 1, next page.) The official estimates for 1984 show 105 boys for every 100 girls under age five; 99 men per 100 women aged 30 to 34; 81 men for every 100 women aged 65 to 69; and only 41 men for every 100 women aged 85 or over. If these sex ratios are adjusted for differences in the census coverage of males and females, the sexes cross the balance point at ages 40 to 44, rather than 30 to 34.

The low sex ratios in the older ages and their downward trend result from the fact that the survival rates of females exceed those of males throughout the age span, and that this advantage has been expanding for many decades. It is decelerating, however, and the relative difference in the numbers of elderly men and women has almost ceased growing. In fact, the sex ratios of the birth cohorts of 1980–1985 are expected to fall more slowly with advancing age than those observed in 1984, crossing a hundred, the balance point, at the ages of 45–49 instead of ages 40–44, as was the case in 1984 (and as is shown in figure 1). The massive excess of females at ages sixty-five and over, now numbering 5 1/2 million, is expected to grow, however, as the elderly population grows, nearly doubling by 2025.

The sex imbalance is associated with a pronounced excess of the proportion of elderly females to elderly males in the total population. In 1984, 14 percent of all females were over sixty-five years of age,

FIGURE 1. Males per Hundred Females for 1983 and for the Birth Cohorts of 1980–85



SOURCE: U.S. Bureau of the Census, *Estimates of the Population, 1980 to 1983*, Series P-25, No. 949, Table 1; Projections of the Population, 1983 to 2080, Series P-25, No. 952, Table 6.

compared with 10 percent of all males. The combination of the higher male birthrate and the higher male death rate (male births or deaths per 1000 male population), in comparison with the corresponding rates for females, contributes to this difference.

Because most elderly persons, especially those over age seventy-five, are female, the health, social, and economic problems of the elderly may be viewed as mostly the problems of women. Aged women are often widowed, live alone, have difficulty in functioning independently because of chronic health conditions, and experience a disproportionate degree of poverty. On the other hand, men commonly have already made the "supreme sacrifice." From a philosophical and ethical viewpoint, we may also see this as an issue of treatment versus prevention, and the locus of the problem is a legitimate matter of debate.

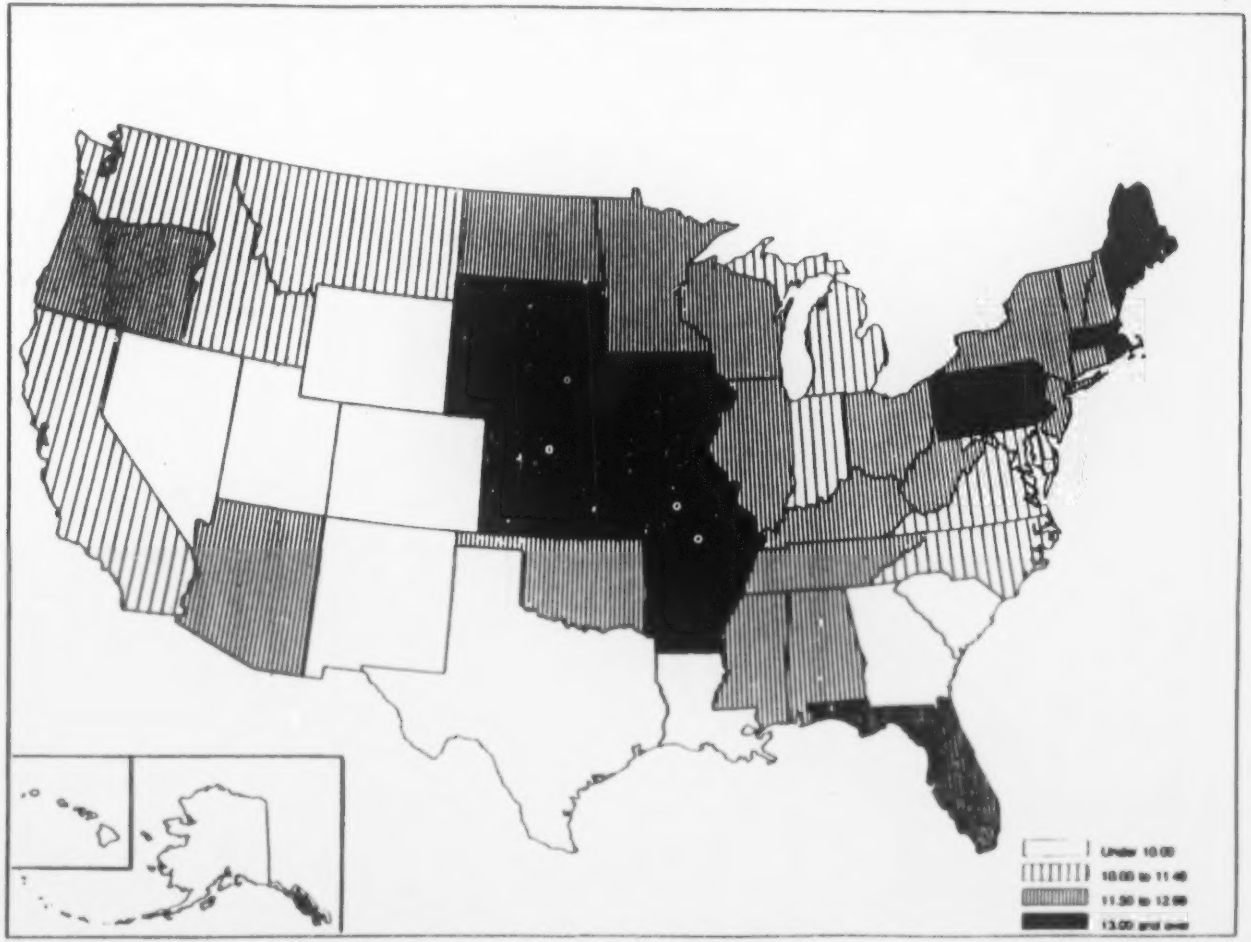
The black population is much younger than the white population. Although the black elderly population is growing more rapidly than the white elderly population, a much smaller proportion of the black population is over sixty-five years of age (8 percent versus 13 percent, in 1984). The higher fertility of blacks, associated with the higher mortality of blacks below age sixty-five, is the main factor in the difference in the proportion of white and black elderly persons. The difference has been increasing and is expected to continue to do so.

GEOGRAPHIC DISTRIBUTION AND RESIDENTIAL MOBILITY

The aging of the nation's population is pervasively reflected in the record of most states. Almost all the states have shown a steady rise in the proportion of elderly persons since 1960. As a result mainly of the influence of internal migration, many states are aging at an accelerated pace compared to the country as a whole.

Florida leads the other states by far in its proportion of elderly, with 17.5 percent age sixty-five and over in 1983. Many Midwestern farm-belt states—Iowa, Missouri, South Dakota, Nebraska, Kansas—as well as Maine, Massachusetts, Rhode Island, Pennsylvania, and Arkansas show relatively high proportions of elderly (13.0 percent or more), as compared with the national average (11.7 percent). (See figure 2, next page.) Several Western states—Utah, Wyoming, Colorado, Nevada, New Mexico—and the South—

FIGURE 2. Percent of the Total Population 65+, 1983*


Under 10.00
10.00 to 11.49
11.50 to 12.99
13.00 and over

SOURCE: U.S. Bureau of the Census, *State Population Estimates by Age and Components of Change*, 1980 to 1984, Series P-25, No. 970, Table 4.

*Figure for District of Columbia is 11.8 percent. U.S. average is 11.7 percent.

Texas, Louisiana, South Carolina, Georgia—as well as Alaska and Hawaii, show low proportions (below 10.0 percent). The high proportions tend to result from continuing large net out-migration of young adults (in the Midwest), continuing large net in-migration of older persons (to Florida), and low fertility (in Maine, Massachusetts, Pennsylvania, Rhode Island).

Low proportions of elderly tend to occur under the opposite conditions, principally in-migration of young adults—to Colorado, Nevada, Texas, Wyoming—and high fertility—in South Carolina, Georgia, New Mexico, Utah, Wyoming. Variation in mortality is not a significant factor in identifying states with high or low proportions of elderly. In recent years, the role of direct migration of the elderly as a factor in the aging of state populations may have increased as the economic status of the elderly has improved and retirement centers have become more widespread.

Some states have many counties with "elderly" populations. Apart from Florida, over one-quarter of the counties in Kansas and over one-fifth of the counties of Texas and Missouri had elderly proportions of 20 percent or more in 1980. These are usually "small" counties, that is, counties with no place over 25,000 inhabitants. In general, the proportion of elderly in a population tends to vary inversely with the size of the area. Non-metropolitan counties with only small places had the highest proportions, and the urban fringes of large metropolitan counties had the lowest proportions. From a simple numerical standpoint, the small rural counties of the Midwest potentially have the most serious problem in planning services for the elderly.

Old people mostly "stay put." Many live out their lives in small-town America or in certain sections of our large cities, especially the inner, deteriorated sections. Gerontic enclaves have long been evident in large cities, but concentrations of elderly people are now appearing in metropolitan suburbs, albeit in a more dispersed form, as residues of the large postwar migration to these areas.[5]

After "youth," the tendency to move drops steadily until old age, when migration rates are quite low. Among the elderly, however, mobility is greater for the younger segment (65 to 74 years) than for the older segment (75 years and over). Currently, only about 3 1/2 percent of the population sixty-five and over moves to a different house in the same county in a year, and only about 2 percent changes its county of residence in a year.[6] Of those who move, nearly half remain within the same metropolitan area. The level and age pattern of mobility rates have not changed much in the last few decades.

The low migration rates of the elderly are also reflected in the low rates of net interstate migration during the periods 1970 to 1980 and 1960 to 1970.[7] For 1970–1980, only five states and the District of Columbia showed net migration exceeding 10 percent of the 1970 population sixty-five and over. As is true for the general population, net migration of the elderly has "proceeded" out of the Northeastern states into the South and West, particularly out of the Middle Atlantic states and into the South Atlantic and Mountain states.

LONGEVITY AND HEALTH

Life expectancy at birth has increased tremendously since the beginning of the century, when it was about forty-nine years. It rose to sixty-eight years in 1949–1951, or by about nineteen years in the first half of the century. There was relatively little change thereafter until 1968, when life expectancy again began to advance steadily and briskly. The latest figure is 74.7 years for 1983. According to the life table for 1949–1951, only two-thirds of all babies would live to age sixty-five; now, nearly four out of five babies would live to this age. These figures on life expectancy and chances of survival understate greatly the actual prospects for persons born in the years indicated. Life expectancy for a child born in 1950 has been projected by the Social Security Administration (SSA) at 76 years, or 8 years more than the figure for calendar year 1950, for example.[8]

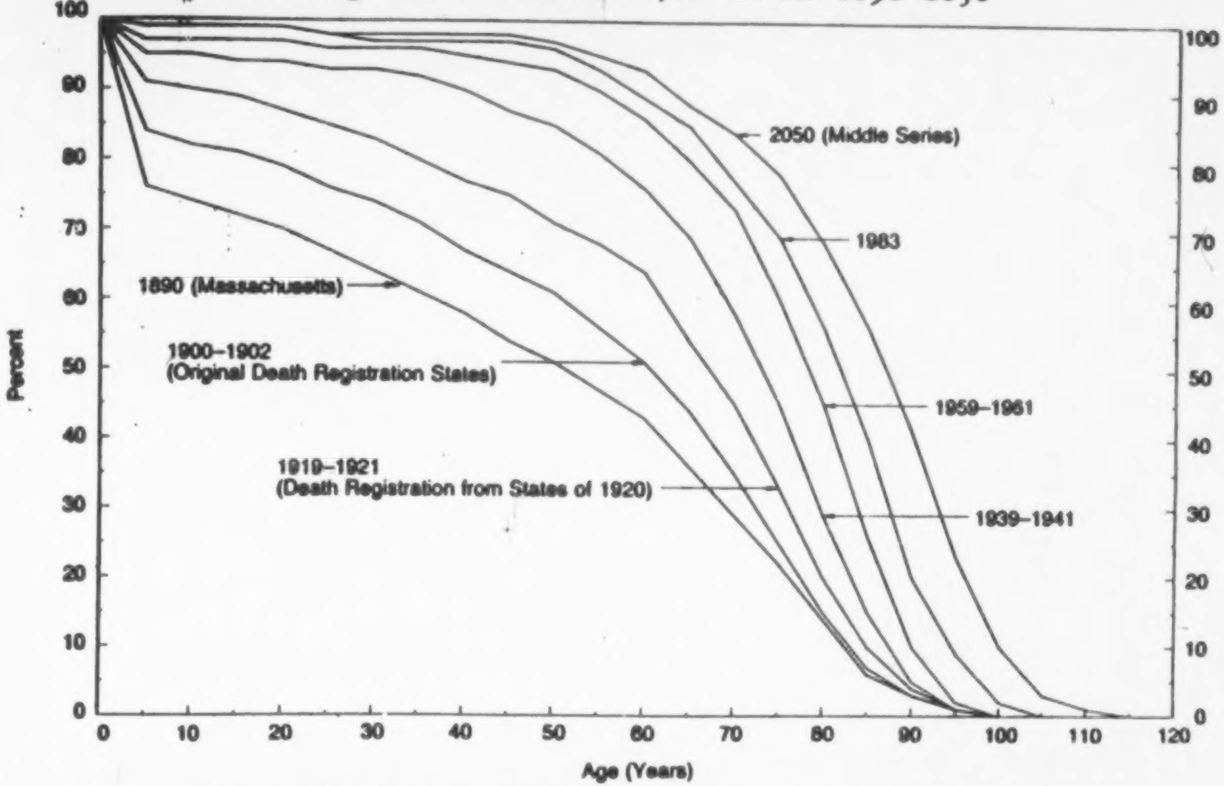
The chance of surviving to the oldest ages has also increased, especially if one has already reached age sixty-five. Life expectancy at age sixty-five was twelve years in 1900–1902, fourteen years in 1949–1951, and seventeen years in 1983. The SSA projection for the birth cohort reaching age sixty-five in 1950 is 19 1/2 years, or 5 1/2 years more than the 1950 calendar-year figure. The proportion of persons surviving from age sixty-five to age eighty-five was 23 percent in 1950 and 38 percent in 1983. That is to say, for every hundred persons aged sixty-five, an additional fifteen persons survived to age eighty-five in this 33–year period. Compared with the improvements at the younger ages, the relative improvements at the older ages, whether measured in terms of survival rates or average years lived, have been markedly greater in this period, although the relative declines in age-specific death rates have been somewhat smaller. In the 1900–1950 period, mortality indicators were consistent in showing lesser gains at the older ages.

Even though life expectancy at birth has been steadily increasing, the human life span may be fixed at about 100 to 105 years. The curve of survivors, based on annual death rates, has become increasingly rectangular in shape.[9] (See figure 3, next page.) When overall mortality was relatively high, death rates were much higher at the younger ages than now, and the curve of survivors sloped downward at roughly a 45-degree angle, as in the 1900–1902 curve. As death rates have fallen at the young and middle ages, the survival curve has become increasingly level over most of the age span and has fallen more and more sharply at the higher ages, as in the 1983 curve. At its theoretical limit, the curve would assume a 90-degree angle, with virtually every member of the cohort surviving to age one hundred and then dying within the short time span suggested by the above age range. Fries and Crapo have added the notion that the period of chronic morbidity in later life is also being compressed as life expectancy and life span merge.[10]

We can measure the progress toward this theoretical limit, i.e., the complete "squaring" of the survival curve, as follows: in 1900–1902, when life expectancy was forty-nine years, it fell short of its potential "maximum" of about one hundred years by fifty-one years. By 1983, the number (and percent) of years lost had been cut in half to twenty-six (i.e., 100 minus 74). For persons who reached age sixty-five, the corresponding figures are twenty-three years (i.e., 100 minus 77) for 1900–1902, and eighteen years (i.e., 100 minus 82) for 1983.

Both the rectangularization of the survival curve and the associated hypothesis on the compression of the period of morbidity have been questioned.[11] Complete rectangularization of the survival curve cannot be expected for many decades at best, since it would require much progress in the treatment of chronic illness. In the meantime, the human life span may be slowly rising and, according to Walford and others, there is a reasonable possibility of extending it in the next few decades by fifteen to thirty years.[12] The implications for our society of a life expectancy near one hundred, and a life span of 115 to 130 years, have yet to be thoroughly explored.

FIGURE 3. Percent of a Cohort of White Female Births Surviving to Specific Ages According to Current Life Tables, for the U.S. 1890–2050



SOURCE: Based on life tables published by the U.S. Public Health Service, National Center for Health Statistics and by the Office of the Actuary, Social Security Administration.

Sex and Race Differences

Life expectancy at birth differs substantially according to sex and race. The figures for males and females in 1983, 71.0 years and 78.3 years respectively, indicate a massive difference of 7.3 years. The race difference, 5.6 years, is of somewhat lesser magnitude; whites can expect to live 75.2 years and blacks can expect to live 69.6 years at current death rates. (See table 5, next page.)

The peak difference between the sexes, 7.8 years, was reached in 1979, and is perceptibly higher than the current difference, 7.3 years. Much of the difference in life expectancy at birth between the sexes is accounted for by differences in mortality *after* age sixty-five, but nearly all of the difference between the races is accounted for by differences in mortality *before* age sixty-five. According to the life table for 1983, a female who had lived to age sixty-five could expect to live an additional 18.6 years; a male, 14.2 years. A white who had lived to age sixty-five could expect to live an additional 16.6 years; a black, 15.1 years. The respective differences are 4.4 years for the sexes and 1.5 years for the races.

Males and females have not shared equally in the reduction of mortality in this century. In 1900–1902, white females had an advantage of less than three years in life expectancy at birth over white men, and only about one year at age sixty-five. Between 1900–1902 and 1983, expectation of life at birth increased nearly twenty-three years for white males and more than twenty-seven years for white females; hence, about four years were added to the original difference of almost three years, yielding a total difference of over seven years. Life expectation at age sixty-five showed gains between 1900–1902 and 1983 of 2.9 years for white males, and 6.6 years for white females. As a result, the gap between the sexes for whites at age sixty-five is nearly five years today.

The relative contribution of genetic and environmental factors to the difference in the longevity of males and females is a matter of considerable debate. It is clear that both biological and environmental factors have an influence.[13] Cigarette smoking, for example, has been identified as a major contributor to the difference.[14] Generally, men are engaged in the more stressful, physically demanding, and dangerous occupations. With the narrowing of the difference in the environment, roles, and life-styles of men and women, the longevity

TABLE 5. Life Expectancy by Race and Sex: 1929 1931 to 2050

Years	Life Expectancy At Birth		Life Expectancy At age 65		Years gained since previous date At birth		Years gained since previous date At age 65	
	Male	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
1929–1931	59.8	61.1	11.7	12.8	x	x	x	x
1949–1951	65.5	71.0	12.7	15.0	5.7	9.9	1.0	2.2
1983	~~76.9~~ 71.0	78.3	14.5	18.8	5.5	7.3	1.8	3.8
2050[1]	75.5	83.6	17.4	23.1	4.5	5.3	2.9	4.3
	White	*Black*	*White*	*Black*	*White*	*Black*	*White*	*Black*
1929–1931	60.9	48.4	12.3	11.6	x	x	x	x
1949–1951[2]	69.0	60.7	13.9	13.6	8.1	12.3	1.6	2.0
1983	75.2	69.6	16.9	15.4	6.2	8.9	3.0	1.8
2050[1]	79.8	78.2	20.3	20.0	4.6	8.6	3.4	4.6

SOURCE: Based on reports of the National Center for Health Statistics, U.S.P.H.S., or for 2050, the U.S. Bureau of the Census.

[1] Middle mortality assumption.

[2] Data designated "black" are for races other than white.

gap might be expected to diminish considerably. So far, however, this has not happened in the United States or in those European countries where there are sizable sex differences in longevity. There is no evidence that the increasing labor-force participation of women, the decreasing labor-force participation of men, and other approximations of the environment, roles, and life-styles of men and women have brought male and female longevity significantly closer.[15]

There is also strong evidence for the role of biological factors in the male-female difference in the average length of life. Female mammals in general tend to be longer-lived. Fetal and infant mortality is substantially higher among males than among females. A study of males and females in Catholic teaching orders, who were presumed to live under similar conditions, appears to support the biological hypothesis.[16] There is also evidence that the reproductive period plays a protective role in the health of women with respect to the clotting factor, hormonal balance, cholesterol metabolism, and the elasticity of the vascular system. With the virtual elimination of infective and parasitic diseases, the great reduction in maternal mortality, and the emergence of chronic degenerative diseases (heart disease, cancer, stroke, etc.) as the principal causes of death, the biological superiority of women has evidenced itself more strongly. Men fall victim and succumb more readily to these chronic, often fatal, diseases.

As suggested, a significant convergence of the death rates of males and females may not result merely from high or rising percentages of women working—although this may "help." Changes in smoking habits and other elements of life-style that are largely under the control of the individual—habits such as eating, physical exercise, sleeping, automobile driving, and alcohol consumption—presumably could have a significant positive impact on the longevity of both sexes, especially males. The explosive rise taking place in the death rate from lung cancer for women resulting from their post–World War II smoking practices should contribute to a narrowing of the difference. Additional convergence could result if children's socialization became more similar and, particularly, if males and females were reared from infancy on to handle stress less differently. The processes of personality restructuring appear to have started, but they "take effect" slowly. Even with these changes, a biologically influenced part of the sex difference in mortality will tend to remain.

No serious student of the subject has projected an equalization of the life expectancies of the sexes in the foreseeable future. We first need to understand the male-female differences in death rates and to reduce the gap. Men would benefit from an aggressive preventive and therapeutic program that favors them (that is, an "Equal Health Opportunity" program) and that encourages them to give more attention to preventive health care. The consequences of the gap are immense. It is related in varying degrees to female widowhood, paternal orphanhood, solitary living of older women, sharply reduced income of women in later life, earlier and longer institutionalization and forced reentry into the labor force of older women, their need for special support from other family members or society, and other life-course changes, some clearly undesirable.

The massive mortality gap observed between the races in 1900 has been steadily narrowing. In 1929–1931 there was approximately a thirteen-year gap in life expectation at birth between whites and blacks; in 1983 there was a difference of six years. At age sixty-five, life expectancy of blacks and whites has been about the same for many decades. According to the official statistics, blacks have lower death rates than whites after about age eighty. This "crossover" phenomenon is now generally interpreted as a real shift and not merely as a statistical artifact, but there is also evidence for the latter interpretation. Leading explanations point to high early mortality among blacks which leaves a relatively robust older black population and, more defensibly, to race differences in age-related physiological factors such as risk and protective factors in chronic diseases.[17] Much of the difference in the mortality of the races at the ages below sixty-five may be accounted for by differences in the socioeconomic status of the race groups.[18] Serious health problems remain for blacks because of their greater poverty, poorer housing, and lower educational attainment. Whether the difference can be completely eliminated is unclear.

It has been suggested by Ryder that the threshold of old age can be identified on the basis of an assumed number of expected years until death.[19] If we use this concept and arbitrarily choose ten years as the assumed period of life in old age, as a result of differences in life expectancy at the older ages, white males now reach old age (seventy-three years) long before white females (seventy-eight years). A similarly large proportion of the male population (4.3 percent) as of the female population (4.0 percent) falls in the ages thus specified as old age. Blacks reach old age at about the same age as whites, but the proportion of the population in old age is much smaller. The implication of this alternative definition of old age is that it could be, and in fact has been, used to call for the award of certain benefits to groups at an earlier age than the current legal or "normal" age for such benefits. For example, it has been argued on this basis that men should receive Social Security benefits at an earlier age than women.[20]

Causes of Death

In the United States today, more than three out of four deaths of elderly persons result from heart disease, cancer, or stroke. In 1982, heart disease accounted for some 44 percent of elderly deaths, cancer for 22 percent, and stroke for 12 percent. Heart disease was the major cause of death of the elderly in 1950 and remains so today, even though there has been, since 1968, a spectacular decline in the death rate from this cause. Mortality among the elderly since 1968 has plunged, in fact, because of a marked reduction of deaths from heart disease, stroke, and other major causes, especially among females. Death rates from cancer, especially the death rate from lung cancer, have been increasing for several decades.

According to the death rates of 1978, a newborn child has a 41 percent chance of eventually dying from heart disease, a 19 percent chance of dying from cancer, and a 10 percent chance of dying from cerebrovascular disease.[21] These probabilities are not greatly different at age sixty-five. If cancer were entirely eliminated as a cause of death, life expectation at age sixty-five would be extended by two years under the assumption that the risks from different causes are independent. In fact, however, more persons would then die from heart disease and other causes as a result of the increase both in the population at risk and in the death rates for the other causes. Similarly, eliminating deaths from heart disease would add some seven years to life expectancy at age sixty-five under the assumption of independence. The degree to which the incidence of a particular cause of death would be affected by the elimination of some other cause depends in large part on the rank order and proximity of the median ages of the various causes, and on the relative magnitudes of the rates. With the elimination of cancer, few additional lives would be saved, even in the short run.[22]

The median age at death for persons dying from malignant neoplasms in 1979 was sixty-nine years; from major cardiovascular diseases, seventy-seven years; from "influenza and pneumonia," eighty years; from diabetes, seventy-three years; and from "bronchitis, emphysema, and asthma," seventy-two years. The median age at death was twice as high (seventy-two years) in 1979 as in 1900 (thirty-six years), when people died mainly from infectious and parasitic diseases and the population was much younger. The median age at death for all causes combined is a sensitive summary measure of an aging population with low mortality since it is dependent both on the age pattern of mortality rates and on the age distribution of the population.

Elderly men are more likely than elderly women to die from heart disease, cancer, "influenza and pneumonia," accidents, cirrhosis of the liver, "nephritis and nephrosis," and especially "bronchitis, emphysema, and asthma." In fact, for all of the ten leading causes of death at ages sixty-five and over, the rates for males sixty-five to eighty-four years are well above those for women of the same ages, except for diabetes. After age eighty-five, the rates for men continue to be higher than those for women for all leading causes except cerebrovascular disease and diabetes.

Prospects for Increased Longevity

Life expectancy is expected to continue upward, though probably at a somewhat attenuated pace as compared with the experience of the last decade-and-a-half. If the average annual rates of decrease in age-specific death rates recorded in the years since 1968 continue to prevail in the coming sixty-five years (that is, to the year 2050), life expectation at birth would approximate one hundred in that year. This figure has possible implications for the extension of human life span, since the corresponding figure for total life expectation (including years already lived) at age eighty-five is 108 years. Fries' theory of the rectangularization of the survival curve/compression of mortality would argue against any necessary extension of life span. None of the official projections of life expectancy at birth even roughly approximate the hundred-year mark. The three projections for 2050 of the Social Security Administration are eighty-four years (high), eighty years (medium), and seventy-seven years (low).[23] The high series implies a nearly 50-percent decline in age-specific death rates between

1982 and 2050. The Census Bureau's high series expectancy figure is eighty-three years. A rosier impression is secured from the SSA's high series figure for females at age sixty-five in 2050, namely twenty-seven years (implying a total life expectation at this age of ninety-two years), and from its projection of a 0.1 percent probability of survival to age 113 in 2050. Although the SSA claims that these projections rule out significant medical and technological breakthroughs in the treatment of the major chronic diseases, its implied figure for life span is clearly allowed to float upward.

A conservative evaluation of the prospects for the increase in longevity in the United States is given by a composite life table using the lowest death rates at each age currently observed in any country. Such a table, based mainly on rates for 1980, has an expectation of life at birth of 78 years (75 years for males and 81 years for females) and an expectation of life at age 65 of 18 years (16 years for males and 20 years for females). These figures are, respectively, only three years and one year above the 1983 levels for the United States. Japan's figures for 1982 nearly equal the "best-country composite," with 74.5 years for males and 80.2 years for females. Somewhat more favorable projections can be secured by constructing the table with the lowest age-specific death rates for endogenous causes only.[24]

Smoking, dietary habits, alcohol consumption, stress, exercise, and obesity have a proven effect on health, especially on the incidence of endogenous diseases.[25] The U.S. Public Health Service has estimated that life-style accounts for nearly two-fifths to more than one-half of the mortality from heart disease, cancer, cerebrovascular disease, and arteriosclerosis.[26] Personal habits and life-styles of Americans are changing for the better. Will these changes continue and become more widespread? It seems reasonable to believe so, and to ask what would happen to life expectancy if the mortality caused by adverse life-style were eliminated. We estimate that seven years would be added to the life expectancy of females at birth and at age sixty-five. This change would add 3.6 years to the "best-country composite" at birth, and 5.5 years to the "best-country composite" at age sixty-five, bringing life expectancy for females to eighty-five years at birth and to twenty-five years at age sixty-five.

Gains in the educational attainment of the population should also add to the prospects for increased longevity. It has been estimated that, if socioeconomic differentials in mortality had been eliminated and if all persons 25 years and over had the death rates of whites who had completed one or more years of college, life expectancy at age twenty-five in 1960 would have increased by about 3.9 years.[27] Rising educational attainment of the population since 1960 suggests a figure of 2.1 years now. These and other gains could possibly be achieved by extending the application of present medical knowledge regarding prevention, diagnosis, and treatment of the major illnesses to the less educated and less affluent classes, and to the geographic areas now poorly serviced. Specific methods of closing these gaps include health-education efforts and changes in the financing and delivery of medical care. Programs to improve the competence of health personnel, reduce environmental pollution, and increase automobile and industrial safety should have an additional salutory effect.

We may assume that existing diagnostic and therapeutic procedures for specific diseases will be improved or new ones developed. There is also the possibility of devising and implementing techniques for slowing the aging process. The prospects for reducing death rates at the older ages, reshaping the survival curve, and extending the human life span remain a matter of debate.

Health Status

As a group, the older population, including the older aged, is healthier than is commonly assumed. In 1980, nine out of ten elderly persons described their own health as fair, good, or excellent compared with others of their own age.[28] Not until age eighty-five and over do about half of the non-institutional population report being unable to carry on a major activity because of chronic illness.

Clinical measures clearly indicate the decline of health status with age. The elderly are more likely to have a chronic condition that limits their activities, and they experience about twice as many days of restricted activity because of illness as the general population (almost forty days versus nineteen days in 1981). Those elderly who worked, however, do not experience a marked difference in the number of lost work days as compared with the younger working population—about four or five days a year, on the average, for both groups.[29] Arthritis, rheumatism, and heart conditions account for half of the conditions that cause limitations in the activities of the elderly.

Pronounced changes occur over the older age span in the area of health. For example, in 1979, only 5.7 percent of the non-institutional population aged sixty-five to seventy-four said they needed help with one or more home management activities, including shopping, doing routine household chores, preparing meals, or handling money, whereas 40 percent of persons aged eighty-five years and over reported needing such help. Furthermore, 5 percent and 35 percent of these two age groups, respectively, reported needing help with one or more basic physical activities. For example, just over a fourth of the non-institutional population eighty-five and over needed help walking, and nearly 4 percent needed help eating.[30]

Since the turn of the century, there has been a significant shift in the principal causes of ill health, from the infectious and parasitic diseases to the chronic diseases, accidents (especially traffic accidents), and conditions caused by or aggravated by stress, such as drug dependency, mental illness, peptic ulcers, attempted suicides, and hypertension. This so-called epidemiological transition parallels the changes in the causes of death. Although morbidity and mortality have both declined sharply since 1900, the improvement in morbidity has been much less than that in mortality.[31] The measures suggest that no major improvements in the health status of the elderly population occurred during the period 1965 to 1979. The proportion of individuals sixty-five years and over with limitations of activity — especially limitations associated with the leading chronic diseases—rose in this period. Paradoxically, then, it appears that during this period health conditions did not improve, or even deteriorated, while longevity steadily moved upward.[32] While total life expectancy has increased, so may have the years after the onset of chronic disease and disability (that is, "inactive life expectancy").[33]

While older males have higher death rates than older females, a higher percentage of elderly females report having one or more chronic conditions. Elderly females also have a higher incidence rate for acute conditions. The diseases that commonly affect elderly men predominate as causes of death (e.g., heart disease, cancer), while those that commonly affect elderly women predominate as causes of illness (e.g., arthritis, osteoporosis).[34]

We have already suggested some steps that could be taken to improve the health status of the population. Periodic retraining of health practitioners is needed to improve service and to reduce the apparently considerable volume of iatrogenic illness. Public education programs should be expanded to encourage modification of personal behavior relating to smoking, alcohol consumption, stress, diet, exercise, and obesity; and various other community programs, such as environmental protection, mass testing for high blood pressure and glaucoma, campaigns for self-examination for breast cancer, and programs for home, auto, and industrial safety, need to be extended. These steps would bring benefits both to the individual and to society in the form of improved health, reduced health expenditures, and increased productivity and production.

Much remains to be done in the form of medical research and development. Knowledge of the cause and prevention of most chronic diseases is quite limited, according to Jacob Brody of the National Institute on Aging.[35] He urges intensive research on the prevention of chronic diseases and on the interrelationships of social support, life-style, and health. Others have suggested focusing research on diseases that disproportionately affect men. This effort would benefit not only the men themselves, but also their wives, who, after their husbands' demise, commonly face a number of serious social, economic, and psychological problems.

MARITAL STATUS AND LIVING ARRANGEMENTS

The patterns of marital status and living arrangements shift considerably with advancing age. While the changes follow the same general course for elderly women and elderly men, they are much more dramatic for the former than for the latter. Elderly women are more likely to be widowed than married, and a substantial proportion live alone. Elderly men, on the other hand, are much more likely to be married than widowed; most, therefore, live in a family setting. These differences are due to the higher death rates of elderly married men than elderly married women (2½ times higher), the far higher remarriage rates of elderly men than elderly women (seven times higher), and the tendency of the elderly men who marry to marry younger women as well as single, divorced, and widowed women over sixty-five.

Marital Status

In 1984, four out of five men aged sixty-five to seventy-four years, and two out of three men age seventy-five and over were married and living with their wives.[36] Only half of the women aged sixty-five to seventy-four were married and living with their husbands, and less than one in four women seventy-five years and over lived with a husband. At ages sixty-five to seventy-four, only one in eleven men was widowed, as compared with two in five women. After age seventy-five, about a fourth of the men were widowed as compared with two-thirds of the women. Only 5 to 6 percent of elderly men and women had never married, and 3 to 4 percent were divorced.

This general pattern applies to whites and blacks alike. Whites, however, have a much higher probability of being married than blacks, and black females have a much higher probability of being widowed than white women. This pattern of black-white variation applies in marked degree to ages seventy-five and over. In 1984, nearly three-quarters of aged black women were widowed.

The gains in life expectancy have influenced not only the probability of a newborn child surviving to marriageable age, but also other aspects of marriage, divorce, and widowhood. The experience of recent and earlier cohorts is rather different. Men and women now in their eighties and nineties were somewhat less likely to marry in their lifetime than are those now in their mid-thirties and forties.[37] Women and men in the early cohorts did not marry, on the average, until age twenty-three and twenty-six, respectively. Until recently, the average age at first marriage had been declining steadily (to twenty-one years for women and twenty-three years for men). The rate of marital dissolution has also sharply increased; 42 to 46 percent of current marriages are expected to end in divorce, while about one in five marriages of persons now over age eighty ended in divorce. Women born at or before the turn of the century experienced widowhood at younger ages than will be true for women born in the 1940s and 1950s, and were more likely to remarry. Women now in their thirties and forties can expect, on the average, to become widowed around age sixty-eight and live fifteen years as widows; only 8 percent of the members of these cohorts is expected to remarry once they are widowed if current patterns continue.

Living Arrangements

Associated with these marital changes have been pronounced changes in the living arrangements of elderly women. The most notable of these have been the sharp increase in the proportion of women living alone, and the sharp decline in the proportion of women living with other family members. There has been relatively little change in the proportion of elderly men living alone or with other family members.

Both in 1965 and 1984, about one in seven men lived alone, and more than four out of five elderly men lived with family members. In 1984, as compared with 1965, however, elderly men were much more likely to be living with a wife than to be widowed and living with other family members. Over two out of five women aged sixty-five and over lived alone in 1984, compared with less than one in three in 1965. Less than a fifth of the women sixty-five and over lived with relatives other than a husband in 1984, compared with a third in 1965. Over the last two decades, both women and men were much less inclined to live with other people if they no longer had a spouse. This was especially true among women seventy-five years and over; of all aged women, 30 percent lived alone in 1965, and 50 percent lived alone in 1984. Aged black women are much more likely than aged white women to live with other family members if they have no husband (39 percent vs. 23 percent, respectively), but both groups have a high probability of living alone (51 percent for white women and 40 percent for black women) in 1984.

The increased tendency of older women, including older aged women, to live alone, is likely to continue. It is expected that by 1995, over 60 percent of the women seventy-five years and over will be living alone. The proportion of aged men living alone is not expected to change much. The U.S. Census Bureau projections suggest that in 1995, about 52 percent of the households maintained by persons seventy-five years and over will be maintained by women living alone or with non-relatives; the current proportion is about 46 percent.[38]

The trend towards independent living has come about partly as a result of improvements in the economic and health status of the elderly, partly from a desire not to be dependent on others, and partly, from simple lack of alternative. Living alone is generally viewed negatively, not only compared to living with a spouse, but also compared to living with another relative or a non-relative. Yet sketchy evidence suggests that we may not properly understand the experience of many of the elderly who live alone. It may come as a surprise that those living alone are not necessarily lonely and may have more outside contacts than those living with others. Women who live alone typically eat diets as nutritional as those eaten by married couples. Men do not; they may have a more difficult time living alone than women because many do not know how to cook.[39]

Some point to the increased proportion of elderly persons living alone as an indication that family members are less likely to care for their elderly parents now than in the "good old days." In fact, just the opposite is the case. For every disabled person living in a nursing home, two or more equally impaired elderly persons live with and are cared for by their families.[40] Beth Soldo estimates that over a million households contain an elderly person in need of assistance with the activities of daily living or mobility.[41] Elaine Brody conservatively estimates that over 5 million adult children are involved in parent care at any given time.[42]

Brody further points out that not only do more people now provide parent care than in the past, but the nature of the care is much more demanding and lasts over much longer periods than in the past. Families provide 80 to 90 percent of personal care and help with household tasks, transportation, and shopping for the elderly. It is usually adult daughters who are the care-givers, and often they must leave the work force or work only part-time to provide care at the very time in their lives when they need to plan for their own old age. Many will face widowhood and reduced incomes themselves while they try to care for their parents or parents-in-law. If, as may be hypothesized, the length of time during which an older person is disabled and requires assistance has increased, then this too has added to the burden on adult children. As a result of delayed childbearing, many have responsibility for children *and* mothers *and* fathers, all while trying to hold a job or adjust to their own retirement.

Changes in familial aged-dependency ratios reflect the way that the age composition of the population affects the balance between older persons and their children and suggest variations in the magnitude of the family support problem over time. Familial aged-dependency ratios, defined here as the ratio of persons aged 65–79 to persons aged 45–49 (one elderly generation); or the ratio of persons 85 and over to persons 65–69 (two elderly generations), show wide fluctuations because of the cyclical character of fluctuations in the number of births in the last several decades. (See table 4, page 83.) The familial dependency ratio with one elderly generation is falling and will reach a low point in 2010, while the ratio with two elderly generations is rising and will reach a high point in that year. The crunch will come first in 2030, when the "baby-boom" cohorts are just over age sixty-five, and again in 2050, when they will be just over age eighty-five and have relatively few (elderly) children to support them.

Formerly, parents were not as likely to survive to very old age as they are today; the phenomenon of large numbers of people, mostly women, reaching very old age is touching more and more families. In fact, it is new to human experience for a large majority of middle-aged women to have living mothers. Menken has estimated on the basis of the rates of fertility, mortality, and marriage for 1940 and 1980 that the proportion of 50-year-old women with living mothers jumped from 37 to 65 percent in this period.[43] In general, families today have more generations—between three and four—than families had earlier in this century, and by the year 2020 the typical family is expected to consist of four generations.

Institutional Population

Most elderly persons live in households, and the proportion of the elderly population in institutions is small. In 1980, about 5 percent of the population sixty-five years and over resided in institutions. The likelihood of institutional residence rises sharply with age. About 1.5 percent of the population 65 to 74 years old, 7 percent of the population 75 to 84 years old, and 22 percent of those 85 and over lived in nursing homes in 1980. There has been a marked increase over the last decade in the *number* of elderly persons who are institutionalized, but the *proportion* has remained about the same. In 1970, as in 1980, about 5 percent of the population sixty-five years and over resided in institutions; the proportion was only 3.4 percent in 1960.

Institutionalization has come at increasingly older ages over the last two decades. In 1963, the 65-to-74-year group made up about one-fifth of nursing home residents, the 75-to-84-year group made up almost half, and the group eighty-five and over made up a third. Now, out of every five residents, one is aged 65 to 74, two are 75 to 84, and two are 85 and over.

In 1980, seven out of ten residents of nursing homes, and almost four out of five older-aged residents of nursing homes, were women. The increase in the number of elderly women in institutions has been much more marked than that of elderly men. Between 1970 and 1980, the elderly female population in institutions increased by 48 percent, as compared with 19 percent for males.

Along with these population changes has come a change in the type of facility in which the older institutional population resides. In 1980, only 2 percent of institutionalized persons seventy-five years and over resided in mental hospitals, compared with 7 percent in 1970. This is a trend that has continued from the 1960s. The decrease in the proportion in mental hospitals is partly a result of the introduction of "Medicare" and "Medicaid," with patients shifting to places eligible for federal coverage of costs, partly a result of the increased availability of residential board-and-care facilities, and partly a result of the development of psychotropic drugs.

It has been estimated by life-table methods that an elderly individual's risk of institutionalization approaches, and may exceed, 50 percent.[44] While this may seem high, it should be recognized that most admissions are short-term. Liu and Manton estimate that one-third of admissions are for less than thirty days and three out of four are for less than a year.[45] About 17 percent of the residents die within the first year and another 19 percent die shortly after discharge. Clearly, many stays are not long-term, and nursing homes are much used for both recuperative and terminal care.

There are factors that could lead us to expect that the number and proportion of institutionalized elderly will grow in the next few decades. One is the rapid increase in the size of the very old population, which will constitute a larger share of the total population and of the older population. The proportion of the population seventy-five years and over is expected to rise from about 5 percent in 1983 to 7 percent in 2010 and to double by 2030. Next, the prevalence of chronic disabling disease increases with age. Finally, middle-aged women have been the major source of family support for the very old but, more and more, they are in the labor force, preparing for their own old age, and hence are not as available for this task as earlier.

On the other hand, it may be unwise to commit substantial public funds to the building of long-term care institutions. Medical advances, along with an improved understanding of the psychological factors that promote independence, could obviate the need to institutionalize many, perhaps half, of those currently in institutions. Nearly a fourth of those in nursing homes are there because of the debilitating effects of stroke,[46] but medical researchers seem to be on the verge of devising ways of preventing the severe brain damage that accompanies stroke for many victims, and changes in living habits hold promise for the further reduction in the incidence of stroke.[47] A large proportion of institutionalized elderly are there because of Alzheimer's disease, which some think may be caused by a virus, toxic metal deposits, or an enzyme shortage, and thus may be preventable.[48]

Furthermore, it is unclear whether institutionalization, home care with hired help from the private sector or social service agencies, or family care is preferable. Many experts contend that the ability of the very old to live semi-independently is underestimated. Others counter that outside help is needed because of the likelihood that other family members are elderly and because of the enormous economic, emotional, and physical stresses on the family associated with maintaining an aged dependent person at home.

CONCLUDING NOTES

We conclude this essay with a series of demographic scenarios for the United States in the middle of the next century for comparison with the profile of today. Three of these scenarios correspond to three of the thirty projection series published by the U.S. Census Bureau in 1984; two others employ assumptions on mortality that are more extreme than those used in the Census Bureau's series. The latter two scenarios, in fact, imply a life expectancy of one hundred years in 2050. The scenarios are summarized in table 6 (page 110) in terms of broad age distributions, median ages of the population, dependency ratios, and other parameters for the year 2050.

Inasmuch as the variation in the degree of aging depends principally on the fertility assumption, and in all series fertility is assumed to conform to lower levels than have been historically typical, in all series the population will continue to age. There is considerable agreement among demographers that the general long-term outlook for fertility in the United States is for low fertility.[49] In many of the projection series of the U.S. Census Bureau (including especially the low fertility series, and the middle fertility series with low or middle immigration), the population will reach "zero population growth" (ZPG) and then decline sometime in the next century—early in the century under low fertility, and about the middle of the century under middle fertility. Sharp future declines in mortality, such as those leading to a life expectancy of one hundred in the year 2050, will also contribute greatly to the aging of the population insofar as these declines will be concentrated at the older ages.

Some Demographic Scenarios for 2050

Under the most likely scenario for 2050, the "middle" series of the U.S. Census Bureau (assuming middle fertility, mortality, and immigration), the total population would grow to about 310 million and then would stop growing. The proportion over age sixty-five would be almost twice as great as today (22 percent vs. 12 percent), and the proportion under age twenty would be three-quarters as great as today (23 percent vs. 31 percent). The median age of the population would be forty-two years, and the median age at death would be eighty-four years, both eleven years higher than today. Eighty-three percent of deaths would occur after age sixty-five as compared with 68 percent today, and 43 percent of deaths would occur to persons over age eighty-five as compared with 18 percent today. The death rate, at 12.8 per thousand population, would be about 50 percent greater than it is today, and there would be twice as many deaths in a year as now, with a 12-percent excess of deaths over births. Deaths will occur at almost predictable occasions, mostly when people have "lived out" their full lives. Middle-aged couples will have had less than two children, fewer than they have living parents.

Among the 67 million people over age sixty-five, some 60 percent would be women, who would outnumber men by 13 1/2 million. The gerontic dependency ratio (ratio of persons 65 and over to persons 20 to 64) would be double its present level of 20, and the total dependency ratio would be 12 percent higher. On the assumption that there would be no major medical breakthroughs, but only

TABLE 6. Demographic Parameters of the U.S. Population in the Year 2050 Under Various Assumptions of Fertility, Mortality, and Net Immigration (Numbers in thousands)

Parameter	Current data, 1982	High fertility High mortality High immigration	Middle fertility Middle mortality Middle immigration	Low fertility Low mortality Low immigration	Low-middle fertility[1] Extremely low mortality Middle immigration	Low fertility Extremely low mortality Low immigration
Total fertility rate	1831	2300	1900	1600	1750	1600
Life expectancy at birth	74.6	76.7	79.6	83.3	100.0	100.0
Net immigration (per year)	480	750	450	250	450	250
Population	232,057	402,687	309,488	253,603	331,972	287,960
Ages (percent)						
Total (all ages)	100.0	100.0	100.0	100.0	100.0[2]	100.0[2]
Under 20 years	30.7	29.5	23.3	18.1	18.4	16.1
20–44	38.6	33.2	30.9	27.7	26.2	24.8
45–64	19.2	21.7	24.0	24.9	22.5	22.9
65 and over	11.6	15.6	21.8	29.3	32.9	36.2
Median age	31	35	42	49	51	53
Dependency ratios						
Total[3]	73	83	82	90	105	110
Neontic[4]	53	54	42	34	38	34
Gerontic[5]	20	29	40	56	67	76

TABLE 6. Demographic Parameters of the U.S. Population in the Year 2050 Under Various Assumptions of Fertility, Mortality, and Net Immigration (Numbers in thousands) --Continued

Parameter	Current data, 1982	High fertility High mortality High immigration	Middle fertility Middle mortality Middle immigration	Low fertility Low mortality Low immigration	Low-middle fertility[1] Extremely low mortality Middle immigration	Low fertility Extremely low mortality Low immigration
Net growth rate (per 1000)	+9.5	+6.2	0.0	−4.7	+2.0	−0.9
Birth rate	16.1	15.4	11.4	8.2	8.8	7.3
Death rate	8.6	11.1	12.8	13.9	8.2	9.1
Immigration rate	2.1	1.9	1.5	1.0	1.4	0.9
Net change	+2199	+2500	+10	−1198	+653	−265
Births	3731	6206	3517	2089	2917	2101
Deaths	1986	4455	3957	3537	2714	2615
Median age of deaths	73	77	84	91	ca. 102	ca. 105

SOURCE: Based on, or estimated from data in, reports of the U.S. Census Bureau, esp. *Current Population Reports*, series P-25, no. 952. Projections assuming "extremely low mortality" were prepared in collaboration with Gregory Spencer of the U.S. Census Bureau.

[1] Intermediate between middle and low fertility.

[2] Age distribution estimated by short-cut methods from available Census Bureau population projections.

[3] $\frac{\text{Population under 20 years and population 65 years and over}}{\text{Population 20 to 64 years}} \times 100$

[4] $\frac{\text{Population under 20 years}}{\text{Population 20 to 64 years}} \times 100$

[5] $\frac{\text{Population 65 years and over}}{\text{Population 20 to 64 years}} \times 100$

sustained, gradual progress in health matters, the average age of onset of chronic illness would be unchanged, and the number of chronically ill persons in the population would be far greater than today. However, the number of persons limited in their activity as a result of chronic illness may not be greater than today because of progress in the management of the principal chronic illnesses.

Suppose, instead, that fertility, mortality, and net immigration fall to the "low" levels of the Census Bureau. Such a series would tend to "maximize" the proportion of elderly and "minimize" the proportion of children. This is the series labeled "low fertility, low mortality, and low immigration" in table 6. The population would reach ZPG at a somewhat earlier date than in the middle series, about 2023, then decline. In 2050, the median age of the population would be forty-nine years, about eighteen years higher than today. Some 29 percent of the population would be over age sixty-five, and only 18 percent would be below age twenty. The gerontic dependency ratio would be nearly three times its present level, but the total dependency ratio would be only one-quarter greater because of the decline of the child population. There would be nearly 45 percent fewer births and nearly 80 percent more deaths than today, so that death will be much more frequent than birth. If the average age of onset of chronic illness continues to remain unchanged, the number of chronically ill persons would be vastly increased over today's number. However, depending on progress in postponing the age of onset of limitation of activity as a result of chronic illness, the number of persons functionally disabled could be either more or less than today.

The other Census Bureau series presented in table 6 employs high fertility, high mortality, and high immigration and thereby tends to "minimize" both the rise in the proportion of elderly persons and the fall in the proportion of children. Some 16 percent of the population would be over age sixty-five, and the median age of the population would rise by only four years to thirty-five. The other demographic parameters would be modified accordingly.

Finally, we consider the two scenarios suggested by a population with a life expectancy of a hundred years in the year 2050. This assumption corresponds approximately to the level of mortality obtained by projecting death rates at each age at the rates of decline recorded in the last decade and a half. A life expectancy of one hundred could also be achieved by a reduction of some 70 percent in age-specific death rates below the best-country age-specific death rates for females on record in 1980. A life expectancy of a hundred is consistent with an extension of human life span to 115, 120, or even 130 years, but this is only a probable association, not a necessary one. If we assume a rectangularization of the "present" survival curve, the life span could remain around a hundred. In a population with a life span of, say, 125 years, the relationship of chronological age and functional age as we know it could be completely changed. Persons seventy-five years old may be able to function like the sixty-five-year-olds of today.

The first of these scenarios employs assumptions on fertility and net immigration corresponding to the recorded levels of recent years. It is labelled "low-middle fertility, extremely low mortality, and middle immigration" in table 6. The median age of the resulting population would be fifty-one years, and the median age at death would exceed a hundred. About 33 percent of the population would be over age sixty-five, and only 18 percent would be under age 20, as compared with 12 percent and 31 percent today. The gerontic dependency ratio would be 3 1/2 times its current level, and the overall dependency ratio would be nearly 50 percent greater.

The final scenario combines low fertility and low net immigration with the extremely low mortality assumption described. This set of assumptions identifies an extreme, albeit possible, course of population change, in which the median age would be fifty-three, and 36 percent of the population would be aged sixty-five or older! Only one out of six persons would be under aged twenty—that is only half the proportion of today! In spite of the sharp decline in the share of children, the overall dependency ratio would be well over the current figure because of the nearly fourfold increase in the gerontic dependency ratio.

Implications

Under the demographic conditions assumed in the last two scenarios, the nature of American society in 2050 would differ vastly from the way it is today. Very high proportions of elderly persons and very high dependency ratios, accompanying continuing low fertility and very low mortality, could have profound social and economic consequences. Education, health care, housing, recreation, and work life could be affected by the changes in age structure described. There could be serious dislocations in the economy as it tries to adjust to changing needs for jobs, goods, and services. Societal aging calls for increasingly larger financial contributions to the federal treasury by workers on behalf of older non-workers. Tax rates could become oppressively high and serve as a disincentive to work. The productive capacity of the economy could be diminished as the proportion of persons of working age shrinks and vast expenditures have to be made for the "maintenance" of the burgeoning number of elderly persons. Much depends on the development of methods for sustaining or even increasing the productive vigor of older persons. Both major technological innovations and institutional adjustments will be required to deal with the population changes described.[50]

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[50] William J. Serow, "Socioeconomic Implications of Changing Age Compositions of Low Fertility Countries. Empirical Evidence: An Assessment, in Particular, of its Practical Significance," pp. 271–84, and Joseph van den Boomen, "Age-Cost Profiles: A Common Denominator?" pp. 285–99, in *International Population Conference, Manila, 1981*, op. cit. Hilde Wander, "Short, Medium, and Long Term Implications of a Stationary or Declining Population on Education, Labour Force, Housing Needs, Social Security and Economic Development. *International Population Conference, Mexico City, 1977*, vol. 3 (Liège, Belgium: International Union for the Scientific Study of Population, 1977), pp. 95–112. Lincoln Day, *What will a ZPG Society Be Like?*, Population Bulletin, June 1978, Population Reference Bureau, Washington, DC.

Ms. **Taeuber**. Just to summarize, it would take significant improvement in the mortality rates of the best country, which is Japan, to ever get to 100. It would be pretty extreme changes that would be required. The thing that Mr. Vaupel has talked a lot about is an important point, which is the active life expectancy, and that's something we don't have much research on. Our health statistics—we don't have a long background to look at in our health statistics to try to answer these questions that you're asking and I think that the more that we can improve in these health areas and the statistics the more it will help us. Also the interrelationships between health and economic status is another area that is an unmet need in terms of our statistics that we haven't really looked at and we think probably would have an effect on the answers to the questions you're asking.

DEMOGRAPHIC TRENDS AND SOCIAL SECURITY SOLVENCY

Representative **Scheuer**. Thank you. Now if we take Mr. Vaupel's assumptions at face value of this remarkable extension of life, life expectancy at birth going up to 100, what does this do to the solvency of the Social Security system itself? Does it knock it into insolvency? What does it do?

Mr. **Carozza**. Mr. Chairman, we'll try to give you a little bit better idea, but basically the more optimistic you are on these kinds of projections, the more pessimistic we would be on the health of the Social Security Trust Funds.

Representative **Scheuer**. I would think. Following Mr. Vaupel's assumptions of his daughter's 100-year life expectancy at birth, how soon would that trend if it's a generalized trend have a major effect on the actuarial status of the system? Would it be in 1, 5, or 10 years?

Mr. **Ballantyne**. It would not be immediate, but it certainly would have an effect, a very substantial effect on the long-range solvency of the program within the next 75 years.

To give you an idea of the possible effect, if the numbers that I quoted earlier for life expectancy on our most pessimistic assumptions with respect to cost but most optimistic with respect to life expectancy, which are about 89 years for women and 82 for men were used for our intermediate (alternative II–B), the long-range deficit of the program over the 75 years would increase from 0.58 percent of taxable payroll to 1.4 percent of taxable payroll over the next 75 years, and the program would clearly then be out of actuarial balance in the long range.

Representative **Scheuer**. That would seem to be an unacceptable actuarial deficit. It would go from what percent to 1.4?

Mr. **Ballantyne**. From today's projected long-range deficit of 0.58 percent to 1.4 percent. This means that in order to finance that kind of a deficit you would have to raise the tax rate on workers and their employers each by not 0.3 percent, but 0.7 percent, if we experience the mortality rates that we project for alternative three, which is our pessimistic set.

Representative **Scheuer**. Supposing you get the mortality rates that Mr. Vaupel is talking about?

Mr. **Ballantyne**. Then it would be a much bigger increase. I don't have estimates for that.

Representative **Scheuer**. Do you have an idea?

Mr. **Ballantyne**. It would certainly be higher than the 1.4 deficit or 0.7 percent each.

BUDGET PRIORITIES

Representative **Scheuer**. I'm going to just ask one more question to this panel because we've run over our time. It's been an extremely interesting panel and we thank you all. It's perfectly obvious that the exploding population of the old and the very, very old is taking a bigger bite out of the health care budget and it's obvious that the health care budget is taking a bigger bite out of our GNP, and there are some people—some credible people who think that these trends can't continue, that we have other unmet needs in the field of health that are very important and in effect are competing with the elderly. Our infant mortality rate is about 20 among OECD countries and we're going to hear from Dr. Heagarty—what is it, Dr. Heagarty?

Dr. **Heagarty**. It's 15, 16, or 17.

Representative **Scheuer**. OK. And probably some of that is the inability or unwillingness of young mothers and fathers to access the health care system. Perhaps some of it is due to the fact that we don't have enough services. I don't know. We're going to hear in the next panel.

And so this exponential growth in the costs of health care for the elderly is in competition with expenditures for other health care programs—for other segments of the population, particularly kids. And then health itself—the whole group of health expenditures is in competition with other priorities in society. We're underspending in our country on education. As I mentioned before, we have 20 to 25 percent adult illiteracy rate in our work force. We have 40 percent of blacks and 52 percent of Hispanics dropping out of school before they finish high school. We're underspending in these areas.

So I think there's going to be an urgent need to engage in really dramatic new thinking to see how we can meet the health care needs of the elderly well. Can we not only provide them health care but provide them a quality of life that's comfortable and pleasant and stimulating? Somehow or other we must find different programs and different modalities and different systems than the one we have now, perhaps relying to a far greater extent on paraprofessionals, on the elderly well, because I think society is going to become increasingly concerned as an increasingly larger percentage of the health dollars are spent on the elderly when there are unmet needs in other elements of the population. The rising percent of our GNP that's devoted to health, now higher than any other country in the world, occurs at a time when we have real unmet needs in other areas of society.

I would suggest that we ought to have a doubling or a trebling of the National Science Foundation graduate fellowships. We have to get our science and technology at the cutting edge of world technology, and it's not now. The Japanese, with half our population, are producing I think 40 or 50 percent more scientists and engineers.

Does anybody have any useful thoughts on where there's a target of opportunity for improving the quality of health care, improving the quality of life care, if you will, and doing it at significantly lesser expense than programs that we've been able to devise up to now? Cynthia, you look as if you would like to say something.

Ms. **Taeuber**. Well, I can't talk about it in terms of policy issues, but certainly we can see just the effect of what happens to young people, that those have effects over a very long time period. We've talked about education. Women in the labor force are another factor. As more women are entering the labor force they obtain retirement in their own name, retirement rights and so forth, and health benefits and medical benefits from their jobs. All of those go over a very long time period so there are effects on younger people from the types of decisions that we as individuals make and as a government we make—over the long run, those decisions affect health costs.

Mr. **Binstock**. Well, this may be a heretical thing to say, but following some of the arguments of Professor Uwe Reinhardt of Princeton, it strikes me that there's an extraordinary surplus in the health care system in terms of entities making profits in one sector or the other without going down the list, that ultimately the only way we're going to get a handle on this is for more government activism rather than a free market approach in which we treat health care goods and services as a special class of goods and services more affected with the public interest than other things we do. And that could range from various forms of a national health service, which I gather every industrialized country other than South Africa has, with the exception of the United States, through various forms of insurance. But I think the main point is that government has to take a more active hand in saying the health care of our citizens is sacrosanct and can't be left to the play of the market because we do have a lot of profit out there.

PROFIT AND RISING COSTS

Representative **Scheuer**. Do you think it's the profits slice or the bottom line that's creating these increasing costs, or is it the heterogeneity and pluralism that we heard about last week that you mentioned earlier that's costing us, or is it the variety of funding mechanisms?

Mr. **Binstock**. I think it may be both, but I suspect it's more profit, particularly in areas that the public hasn't focused on. That is to say, hospitals and doctors have always been visible targets because that's who the patient comes in contact with. The patient doesn't think about pharmaceutical companies, equipment companies, nursing homes, and we would go on and on.

I think that, yes, the Cleveland Clinic Foundation may be making $65 million a year profit as a nonprofit might be too much, but I'm not sure we can get a handle on that so much. I think it's a question of why do you have to make more than 7- or 8-percent profit in the health care sector? That's a good return. I think we have to redeploy the surplus.

Representative **Scheuer**. Well, it may be a good return to somebody who's involved professionally in the health care sector and who really wants to devote their lives to helping people get well. It certainly wouldn't be a good return in the commercial and financial markets, absent the willingness to devote one's life and one's resources to this great public good which is American health.

Well, I thank you very much for a very stimulating hearing.

Thank you very much for a very splendid hearing.

TRENDS IN HEALTH STATUS

We will now move to the next panel whose interests and expertise on trends in health status span the age spectrum from pediatrics to gerontology. This panel includes: Mr. James Harrell, Deputy Director of the Office of Disease Prevention and Health Promotion at the U.S. Department of Health and Human Services; Dr. Margaret Heagarty, director of pediatrics at Harlem Hospital Center; Mr. Jacob Feldman, Associate Director for Analysis and Epidemiology, National Center for Health Statistics, Department of Health and Human Services; and Ms. Lois Verbrugge, associate research scientist at the Institute of Gerontology, University of Michigan. We are particularly happy to have you, Ms. Verbrugge. We know this was something of a last minute commitment that you made and we are very, very happy to have you here.

We also want to extend our special welcome to Dr. Margaret Heagarty, who contributed to the work of our office 10 years ago as an American political science—no. What was it?

Dr. **Heagarty**. Robert Wood Johnson.

Representative **Scheuer**. That's right, and Maggie Heagarty was with us for about 6 month and she served also in Senator Javits' office as I recall. I don't want to engage in the post hoc ergo procto hoc fallacy and I'm not suggesting that our office is responsible for the enormously important role that Dr. Heagarty has played. I can always say that we knew from our work with her over that 6-month period that she was destined for some great things. She certainly has performed up to our expectations.

Dr. **Heagarty**. Thank you, Mr. Chairman, for that amount of Irish blarney.

HEALTH PROMOTION/DISEASE PREVENTION

Representative **Scheuer**. We will start out with you, Mr. Harrell. Let me tell all of you again that your prepared statement will be printed in the record, so to the extent that you just want to chat with us informally and hit the highlights of your testimony, perhaps commenting on anything you may have heard from the prior panel or from Congressman Downey or myself, feel free to do so. Each of you will have 7 or 8 minutes.

STATEMENT OF JAMES A. HARRELL, DEPUTY DIRECTOR, OFFICE OF DISEASE PREVENTION AND HEALTH PROMOTION, PUBLIC HEALTH SERVICE, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Mr. **Harrell**. Thank you, Mr. Chairman. As you said, I'm the Deputy Director of the Office of Disease Prevention and Health

Promotion, and I like Mr. Binstock's characterization of Dr. Fries as being a cheerleader and an optimist. I suppose our Office is kind of a cheerleader and an optimist office in the bureaucracy of health in the Department because we believe that prevention can do a lot and that it hasn't been given quite enough of a chance.

The economic and human costs of preventable diseases and conditions in the United States are substantial. In 1980, the estimated economic cost of preventable heart disease and stroke was more than $100 billion; the cost of preventable cancer was $50 billion; and preventable accidents, $82 billion. Nearly 60 percent of all deaths that occur each year in the United States are premature deaths, and a similarly high proportion of disability and illness could be avoided. Preventable risk factors are known for cardiovascular disease, cancer, stroke, and injuries. These four categories alone account for almost three-quarters of American deaths each year. Yet only about 4 percent of national health care dollars are spent on health promotion and prevention services.

NATIONAL HEALTH GOALS

Our current push in the Public Health Service to improve the Nation's health began nearly 10 years ago, in 1979, when the Surgeon General issued the first report on health promotion and disease prevention, entitled "Healthy People," and it reviewed Americans' dramatic health improvements since the turn of the century, assessed preventable threats to health, and identified 15 areas in which progress could be expected and even accelerated if we put our minds to it. "Healthy People" set broad national health goals for the U.S. population at five major life stages. Specifically, the goals were: to reduce infant deaths by 35 percent; to reduce deaths among children through age 14 and for adolescents and young adults through age 25 by 20 percent; to reduce deaths among people aged 25 to 64 by 25 percent; and finally, to reduce sick days by 20 percent for people aged 65 and older.

The next year "Promoting Health/Preventing Disease: Objectives for the Nation" was published, containing the specific measurable targets that when reached should result in the attainment of those overall national mortality goals set forth in "Healthy People."

Premature death and illness result from numerous conditions. Thus, the national objectives cover a great deal of territory. The 1990 objectives covered 15 areas, with 226 quantifiable targets. For health planning purposes, the 15 priority areas may be divided into three categories. One, preventive service for individuals, including control of high blood pressure, family planning, pregnancy and infant health, immunization, and sexually transmitted disease control. Two, health protection for population groups, including toxic agent and radiation control, occupational safety and health, accident prevention and injury control, fluoridation and dental health, and surveillance and control of infectious diseases. The third category, health promotion for population groups, including smoking and health, misuse of alcohol and drugs, nutrition, physical fitness and health, and control of stress and violent behavior.

During the 1980's, the Nation has made considerable progress in reducing morbidity and mortality and achieving the 1990 health goals. In fact, in 1986, we published a midcourse review of the 1990 health objectives which showed that if current trends continued, the Nation will accomplish the group specific 1990 mortality goals that it had set, with the goal for children already accomplished by 1985.

The midcourse review indicated that, as a nation, we have been largely unsuccessful in certain prevention areas. For example, more than 50 percent of the Nation's family planning objectives which relate to teenage pregnancy are unlikely to be met by 1990.

Another kind of shortfall has to do with measurement of progress. The toxic agent control priority area is a good example of that, with 80 percent of those objectives showing a lack of sufficient data to tell us where we stand. That is partly the result of the fact that that area was in a relative embryonic state of development in early 1980 and things have changed since then when the objectives were set. They did not exactly address areas where we've been making progress during this decade.

There are dozens of specific successes in relation to the 1990 health objectives. We have been particularly effective in expanding public knowledge about the dangers of smoking. Data from a 1985 survey indicate that 90 percent of adults are now aware that cigarette smoking increases the risk of heart disease.

Further, based on progress to date, it appears we will come at least very close to meeting our objective to reduce the proportion of the U.S. population 18 years of age and older who smoke to below 25 percent.

Another serious threat to American health is cirrhosis and chronic liver disease. Cirrhosis of the liver, which is largely attributable to heavy alcohol consumption, was the 11th leading cause of death in 1983. The 1990 objective is to reduce cirrhosis mortality to below 14 per 100,000 and this was achieved already in 1984.

One objective for alcohol was to hold per capita alcohol consumption rate at or below the 1987 levels through 1990. Based on progress to date, this objective is being achieved. Although the alcoholic beverage industry disputes the relationship between per capita consumption and the rate of alcohol problems, an overall decline in consumption does correlate with lowered cirrhosis rates and reductions in alcohol related motor vehicle and non-motor-vehicle fatalities, such as fires, drownings, and recreational injuries.

Now many of the sound features of the 1990's process will be retained as we develop our health objectives for the year 2000. The Public Health Service has joined hands with the National Academy of Science's Institute of Medicine in holding eight public hearings around the country this year to get public input into this process. More than 500 individuals and organizations have testified in hearings intended to determine the local perspective on health care and on improving our objectives garnering detailed information about specific needs of local, racial, ethnic, and other special groups and about successful local prevention programs seem to have been successfully met. There was a lot of very, very sound and serious testimony which we will wade through in developing our drafts.

The subcommittee asked that we address the influence of demographic trends on health promotion and disease prevention. We've heard a lot already about the aging population, but it's clear we must be increasingly concerned with reducing disease and injury-related disability and helping individuals maintain their functional independence, as they grow older. The benefits of freedom from disability are manifold: from reducing society's reliance on long-term care and its attendant costs, to improving the overall quality of life for a growing segment of our population. As our society ages, prevention will only increase in importance, especially as it relates to sustaining independence.

In addition to concern about older Americans, objectives for the year 2000 will focus specifically on the needs of special populations, including other age groups, children, adolescents, minority and low-income groups, where there is a disproportionate burden of premature mortality and illness, higher levels or risk, or greater need to attend to issues of access to preventive services.

The subcommittee also asked that we address how to promote a healthier population. We think as a first step, we believe we should "keep a good thing going" by carrying forward the health objectives process in the next decade. It is true that plans, written objectives with measurable targets, never really prevented anything as such; only committed action can do that. This kind of planning embodied in serious objectives helps us to keep our eyes on the ball, so to speak, giving our commitment and our actions greater effectiveness and greater staying power. And in government, as you know, staying power is really important.

Thank you, Mr. Chairman. I would be glad to answer any questions.

[The prepared statement of Mr. Harrell follows:]

PREPARED STATEMENT OF JAMES A. HARRELL

Mr. Chairman, I am James Harrell, Deputy Director of the Office of Disease Prevention and Health Promotion, in the Public Health Service, Department of Health and Human Services. I also serve as Chairman of the PHS Steering Committee on Health Objectives for the Year 2000. I appreciate your invitation to be here today to discuss our experience in setting national health objectives.

Nearly 200 years ago, one of the great patriarchs of the scientific method in America concluded that an ounce of prevention is worth a pound of cure. And while some economists may dispute the validity of that equation today, its basic wisdom persists. Unfortunately, conventional wisdom has had a difficult time competing with conventional practice.

The economic and human costs of preventable conditions in the United States are substantial. In 1980, the estimated economic cost of preventable heart disease and stroke was more than $100 billion; the cost of preventable cancer was $50 billion; and preventable accidents, $82 billion. Nearly 60 percent of all deaths that occur each year in the United States are premature, and a similarly high proportion of disability and illness could be avoided. Preventable risk factors are known for cardiovascular disease, cancer, stroke, and injuries. These four categories alone account for almost three-quarters of American deaths each year. Yet only about four percent of national health care dollars are spent on health promotion and prevention services. In my testimony today, I would like to review efforts of the Public Health Service to redirect the considerable energy and dedication of Federal agencies, States, localities, and private enterprise to preventing disease and promoting good health.

Setting National Health Goals

Our current push to improve the Nation's health began nearly ten years ago, in 1979, when the Surgeon General issued the first report on health promotion and disease prevention. Healthy People reviewed Americans' dramatic health improvements since the turn of the century, assessed preventable threats to health, and identified fifteen areas in which progress could be expected and even accelerated. Healthy People set broad national health goals for the U.S. population at the five major life stages. Specifically, the goals were:

- To continue improving infant health, and, by 1990, to reduce infant deaths by 35 percent, to fewer than nine deaths per 1,000 live births. Special emphasis was placed on reducing low birthweight and birth defects.
- To improve child health, and, by 1990, to reduce deaths among children through age 14 by 20 percent, to fewer than 34 per 100,000. Particular attention was given to optimal development and injury prevention.
- To improve the health and health habits of adolescents and young adults, and, by 1990, to reduce deaths by 20 percent, to fewer than

93 per 100,000. Motor vehicle injuries and alcohol/drug abuse were emphasized.

- To improve overall adult health, and, by 1990, to reduce deaths among people aged 25 to 64 by 25 percent, to fewer than 400 per 100,000. Particular emphasis was placed on heart disease and cancers.

and, finally,

- To improve the health and quality of life for older people, and, by 1990, to reduce sick days by 20 percent, to fewer than 30 days per year for people aged 65 and older. Special emphasis was given to functional independence and reducing influenza and pneumonia.

Health Objectives As Quantifiable Steps Toward National Goals

Promoting Health/Preventing Disease: Objectives for the Nation, published in 1980, contains the specific, measurable objectives that when reached, should result in attainment of the overall national goals set out in *Healthy People*.

Premature death and illness result from numerous conditions. Thus, the national objectives cover a great deal of territory. The 1990 objectives covered 15 priority areas, with 226 quantifiable targets. For health planning purposes, the fifteen priority areas may be divided into three categories. One, preventive services for individuals, including control of high blood pressure, family planning, pregnancy and infant health, immunization, and sexually transmitted diseases. Two, health protection for population groups, including toxic agent and radiation control, occupational safety and health, accident prevention and injury control, fluoridation and dental health, and surveillance and control of infectious diseases. The third category, health promotion for population groups, includes smoking and health, misuse of alcohol and drugs, nutrition, physical fitness and health, and control of stress and violent behavior.

Midcourse Review of the 1990 Objectives

During the 1980s, the Nation has made considerable progress in reducing morbidity and mortality and achieving the 1990 health goals. In 1986, we published a midcourse review of the 1990 health objectives which showed that of the 226 objectives 48 percent had been achieved or were on track to be achieved by 1990. If current trends continue, the Nation will accomplish its age group specific 1990 mortality goals, with the goal for children already accomplished by 1985. The 1984 population statistics showed infant mortality had declined 24 percent, childhood mortality by 23 percent, adolescent and youth mortality by 13 percent, and mortality among adults by 16 percent, compared to 1977 baseline data.

Overall, thirteen percent of the 1990 objectives were accomplished by 1985, with another 35 percent on track to be accomplished by 1990, if current trends continue. Just over 26 percent are unlikely to be achieved and there are no data on the remaining 26 percent. Available data indicate trends in the wrong direction for fewer than four percent of the objectives.

Viewing the objectives as a group masks significant underlying problems and accomplishments. When the objectives are examined by category, important differences emerge. While more than 45 percent of Preventive Health Services objectives — such as sexually transmitted diseases, controlling high blood pressure, and immunization — are expected to be met by 1990, almost 40 percent will not likely be met. Forty six percent of the Health Protection objectives — such as toxic agent control and accident prevention and injury control — will likely be met, but we have no data for over 35 percent. Health Promotion objectives — such as nutrition and smoking reduction — more closely parallel the overall picture: 52 percent are likely to be met by 1990, while the remaining 48 percent are evenly split between those unlikely to be achieved and those for which we lack data.

Specific Shortfalls

As a nation, we have been largely unsuccessful in certain prevention areas. For example, more than 50 percent of the Nation's family planning objectives, most of which relate to teenage pregnancy, are unlikely to be met by 1990. The Nation's objectives to reduce teenage births included targets of 10 births per 1,000 girls 15 years of age, 25 per 1,000 16 year olds, and 45 per 1,000 17 year olds. By 1984, we had made little progress. Births to 15 year olds remained 25 percent above the 1990 target, births to 16 year olds remained 15 percent above target, and births to 17 year olds remained 12 percent above target. These rates are virtually unchanged since 1978.

A shortfall of a different kind has to do with measurement of progress. The toxic agent control priority area is good example, with 80 percent of those objectives showing a lack of sufficient data for evaluation. The status of these objectives is a function of the relatively embryonic development in toxic agent and radiation control at the time the objectives were set. They were based on the best available information in 1979, but the field has undergone tremendous change during this decade. Though significant advances have occurred in health protection against toxic substances, the advances have not necessarily followed the track proposed by these objectives.

1990 Health Objectives Achieved

There are dozens of specific successes in relation to the 1990 health objectives. We have been particularly effective in expanding public knowledge about the dangers of smoking. Coronary heart disease is the single most important cause of death in the United States, accounting for up to 30 percent of all deaths. Smoking is one of three major risk factors for heart disease. The 1990 objective is to increase the proportion of adults aware that smoking is one of the major heart disease risk factors from 53 percent (in 1975) to at least 85 percent. Data from the 1985 Health Promotion and Disease Prevention Supplement to the National Health Interview Survey indicate that 90 percent of adults are now aware that cigarette smoking increases the risk of heart disease.

Further, based on progress to date, it appears we will be close to meeting the objective to reduce the proportion of the U.S. population 18 years of age and older who smoke to below 25 percent.

Another serious threat to American health is cirrhosis and chronic liver disease. Cirrhosis of the liver, which is largely attributable to heavy alcohol consumption, was the 11th leading cause of death in 1983. The 1990 objective is to reduce cirrhosis mortality from 13.5 per 100,000 per year to 12 per 100,000 per year; the objective was achieved in 1984, when cirrhosis mortality was recorded at 10.9 per 100,000.

Achievement of certain goals has a multiplier effect, in that their achievement increases the probability that other objectives will be reached. A case in point is alcohol consumption. The 1990 objective for alcohol was to hold per capita alcohol consumption rates at or below 1978 levels through 1990. Based on progress to date, this objective has been achieved. Apparent per capita consumption increased sightly from 1978 to 1981 and then decreased slightly in 1982, 1983, and 1984.

Although the alcoholic beverage industry disputes the relationship between per capita consumption and the rate of alcohol problems, an overall decline in consumption correlates with lowered cirrhosis rates and reductions in alcohol related motor vehicle and non-motor vehicle fatalities, such as fires, drownings, and recreational injuries.

Success of the 1990 Objectives Process

The utility of the 1990 objectives as a national health strategy that has endured and defined the national prevention effort stems from several sources. First, expert consensus was the bedrock of the 1990 objectives. More than 200 individuals and organizations, from both the public and private sectors, aided in their development. Agencies within the Public Health Service drafted background papers on the major challenges of the fifteen priority areas. The papers were then used by 167 non-Federal experts who met at a national conference and devised the first draft of the 1990 national health objectives.

The Public Health Service selected conference participants for their insights into health risk reduction and for their varied institutional perspectives. Conferees were drawn from academia, State and local health agencies, providers, and voluntary health associations. Approximately fifty representatives of interested Federal agencies attended conference working sessions as observers.

The draft objectives were publicized in the Federal Register, and circulated to more than 2,000 groups and individuals for review. While the objectives were developed under Public Health Service sponsorship, and are consistent with federal policies, they are national — not federal — objectives.

Implementation of the 1990 Objectives

Another reason for the effectiveness of the 1990 objectives is the dedication of the Federal agencies in pursuing established health goals. Once the objectives were published in final form, federal agencies set about implementation. Each lead HHS agency identified its highest priority objectives and developed implementation plans reflecting available programs/resources. The implementation plans were published in a special supplement of Public Health Reports in 1983.

Further, the objectives have received strong support from the Assistant Secretaries for Health, throughout the 1980s. Each Assistant Secretary for Health has monitored progress of the PHS agencies toward the 1990 objectives with progress reviews of the fifteen priority areas scheduled monthly. At the progress reviews, agency representatives meet with the Assistant Secretary and go over the status of the objectives related to their programs. During the review, shortfalls are noted and suggestions made for redirecting our efforts. Summaries of these reviews are published in the Center for Disease Control's Mortality/Morbidity Weekly Reports. At this time, we are nearing the end of the third full round of reviews since the first was held in 1983.

Formulating the Year 2000 Health Goals

Many of the sound features of the 1990s process will be retained in developing the Year 2000 objectives. To improve the process, the Public Health Service has adopted a set of guiding principles for the Year 2000 objectives. According to the principles, the new objectives should:

- be the highest priority for particular health areas and should be scientifically sound and attainable;
- be understandable and relevant to potential users, including those who manage, deliver, use, and pay for health services;
- reflect a mixture of outcome and process, to help in setting standards for evaluating progress and methods for best achieving desired changes;
- be technically sound, numerical targets;
- be linked to the 1990 objectives where appropriate and should reflect the lessons learned in implementing them;
- be compatible with goals already adopted by federal agencies and health organizations;
- reflect the views of professionals, advocates, and consumers; and

- be unconstrained by current availability or form of substantive data. Alternate and proxy data should be used where necessary.

As part of the Public Health Service's effort to assure the Year 2000 objectives comport with these principles, PHS and the Institute of Medicine held eight public hearings in cities across the country in early this year. More than 200 individuals and community groups testified. The hearings were intended to determine local perspectives on health care and on improving the Year 2000 objectives. We also expected to garner detailed information about the special needs of local, racial, ethnic, and other special groups and about successful local prevention programs that can be replicated elsewhere in the country. Our intentions and expectations of the hearings process appear to have been successfully met.

Interested parties were urged to submit written testimony directly to the Institute of Medicine or to speak at a dozen and a half mini-hearings held as part of national organization meetings. In total, testimony was received from more than 500 different sources.

The Year 2000 objectives will undergo intense Federal and non-Federal scrutiny. Our PHS steering committee, composed of representatives of PHS agencies and staff offices, is overseeing objectives development.

The Assistant Secretary will designate lead PHS agencies, that will use the public testimony and their own expertise to formulate the first draft of the Year 2000 Objectives. The draft will be circulated broadly, with ample opportunity for public and Federal agency comment. As did the 1990 objectives, the Year 2000 effort will rely on expert consensus. We anticipate publication in mid 1990.

Influence of Demographic Trends

The Committee asked that we address the influence of demographic trends on health promotion and disease prevention. With an aging population, we must be increasingly concerned with reducing disease and injury-related disability and helping individuals maintain their functional independence. The benefits of freedom from disability are manifold: from reducing society's reliance on long term care, to improving the overall quality of life for a growing segment of our population. As our society ages, prevention will only increase in importance — especially as it relates to sustaining independence.

A growing body of scientific information places the biological limit of the human lifespan somewhere between 80 and 110 years, assuming no alteration in chromosomal structure. Thus, the proper emphasis in the objectives for older individuals is to prolong good health for as long as possible. Improved diet and increased exercise — actions older individuals can take to preserve their independence — are especially important.

In addition, objectives for the year 2000 will focus specifically on the needs of other special populations, including other age groups and minority and low-income groups, where there is disproportionate burden of premature mortality and illness, higher levels of risk, or greater need to attend to issues of access to preventive services.

As a way of highlighting the importance of reducing morbidity as well as mortality, we are considering adding special targets, within appropriate objectives, for reduction of preventable disability. Such targets would emphasize the importance of improving the quality — as well as length — of life. We recognize that extending the lifespan of relatively frail individuals while at the same time maintaining functional independence will be a challenge, but one that we must accept as a Nation.

Promoting a Healthier Population to Slow Health Care Cost Growth

The Committee also asked that we address how to promote a healthier population. As a first step, we believe we should "keep a good thing going" by carrying forward the health objectives process. The Midcourse Review showed that we are well on our way to meeting more than half of the specific 1990 health objectives and that the broad goals set out in Healthy People for 1990 are within reach. Indeed, the 1990 goal for children has already been met.

Further, we now know that the objectives and the objectives process are guiding State efforts in health promotion and disease prevention. In December of 1987, the Public Health Foundation surveyed all 50 States, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands. The survey found that of the 51 States and territories responding, 50 had either established State health objectives for at least some of the 15 priority areas of the national objectives or were in the process of doing so.

The objectives were not intended to be applied, unchanged in all States, but instead to guide State and local decision making. Most States in the survey used the national goals, but a minority adopted the objectives method and established specific State goals. We were pleased to see the States using the 1990 objectives — either as a source for choosing priority areas or as a model for setting State specific objectives.

Further, we are doing all we can to assure that a strong, credible health objectives process is ready to receive the new Administration in January. Having been created in the late 1970s during the last administration and implemented in the 1980s during the Reagan Administration, the process has impeccably nonpartisan credentials.

In addition to refinement and continuation of the objectives process, we believe other important steps should be taken by the public and private sectors. We have formed a national consortium of over 200 organizations that will help sharpen our focus in formulating the national health objectives. The consortium includes major national voluntary, professional and advisory groups, along with the State health departments. We hope that after a sound set of Year 2000 objectives is formulated, consortium members will work individually and collectively to achieve the national goals. Response from the consortium has been enthusiastic. We believe the consortium members' enthusiasm, coupled with their vast experience, will be a major contribution to achievement of the Year 2000 objectives.

Still, the remaining challenges are great and will require a multifaceted approach that includes:

- additional research into the effectiveness of health promotion and disease prevention programs, including cost-effectiveness analyses);
- more attention to prevention by health care providers;
- a deeper commitment by employers and workers to worksite health promotion to maintain a productive, healthy work force; and
- comprehensive school health programs at one end of the life spectrum and stronger emphasis at the other end on helping older citizens maintain their independence and well-being.

In closing, I would like to emphasize that disease prevention and health promotion efforts are never really finally accomplished. Rather, they involve an ongoing, evolutionary process that entails establishing goals, setting specific objectives to accelerate progress toward the goals, monitoring progress, and finally, beginning anew by reassessing our notion of what is possible and setting new goals. I would like to thank the committee for this opportunity to speak on trends in American health status, the contributions of the national health objectives process to those trends, and some of the health promotion issues of the future.

Representative SCHEUER. Thank you very much, Mr. Harrell. Now, the redoubtable Dr. Heagarty, director of pediatrics at Harlem Hospital Center.

STATEMENT OF MARGARET C. HEAGARTY, M.D., DIRECTOR OF PEDIATRICS, HARLEM HOSPITAL CENTER

HEALTH CARE FOR THE POOR

Dr. HEAGARTY. I'm honored to have the privilege of testifying before this distinguished congressional committee and while I understand that you're interested in the control of health care costs, I'm encouraged that you are also concerned about the unfortunates of our Nation who have no health care.

Representative SCHEUER. Very much so.

Dr. HEAGARTY. I am the director of pediatrics at the Harlem Hospital Center, one of the public general hospitals administered by the New York Health and Hospitals Corp. Harlem Hospital is located in central Harlem, a disadvantaged community of the Borough of Manhattan. My comments will have the values and the biases of the perspective of one who works in an embattled "Hill Street Blues"-type of medical institution, which is chronically underfunded but nevertheless is also the place of last resort for the sick poor of Harlem. And this experience may be instructive, for in many ways the problems of health care in Harlem reflect many of the problems of the health care delivery system in the Nation as a whole.

Let me set the stage with a few numbers. Some 35 or 40 million citizens under the age of 65 have no health insurance whatever, neither private insurance nor government insurance; and 60 percent of this population are either women of child-bearing age or children. Where do they get their health care?

Well, I will give you a precise and rather trite example. Policymakers and in this season politicians are fond of quoting the Nation's infant mortality figures, and depending upon their ideological stripe they view with alarm or with pride. Indeed, every 2 or 3 years Congress establishes yet another commission or a study of this matter, and several are about to report for this season, one more time why our mortality rates are so much higher than those of other industrialized nations and why there remain such discrepancies in the rates found among women of different social classes or minority status.

Representative SCHEUER. And economic status.

Dr. HEAGARTY. And economic status. But what do these figures really mean?

Harlem has the highest infant mortality rate in the city of New York. It also has many poor people without health insurance. But the data are quite clear. Women without health insurance delay or do not get prenatal care. And the data are equally clear, early participation in prenatal care and good obstetrical care will reduce infant mortality rates and, as important, reduce the rate of low birth weight infants. And every time we reduce the rate of low birth weight infants, we also reduce the number of chronically ill children who suffer from a variety of handicapping conditions. And who are these women without prenatal care? In Harlem, they are often immigrants from the Dominican Republic, frightened to reveal their existence to authorities, or women who work in the marginal service jobs that have no unions and therefore no fringe benefits. They are the domestics who clean the middle-class homes or care for the middle-class children, but who work "off the books" and have no health insurance. They are the wives of the gypsy cab drivers or the filling station gas pumpers. In other areas of the country, in Texas for example, they are the wives whose husbands have lost their jobs because of economic recession or dislocation. They are legion, and they are often just making it, but they have not given in to the welfare mode. And when they become pregnant, they do not have the money to get prenatal care and so their infants begin their lives at risk.

New York City is better than many places, for it has a municipal health care system, ostensibly designed to provide health care for all citizens regardless of their ability to pay. That's me, that's Harlem Hospital, but where do I get the money to pay the pediatricians who care for the 40 to 50 percent of children we see in the clinics who have no health insurance? Well, I must get the money from the mayor, from city government, who gets the money from taxes. And depending upon the mayor and the general economic status of the city, I may or may not manage to get sufficient money to pay the pediatricians or to buy the drugs or to build the clinic I must have to fulfill my obligation to the children of Harlem.

I have been at Harlem 10 years and in that time I have acquired a set of skills not taught in medical school, skills at legerdemain, best described in Machiavelli's "The Prince." Let me be clear. I am not complaining much. The process is entertaining and challenging, but as it happens, we are currently in a cycle which has been explained to me as the mayor couldn't sell the Coliseum, the stock market fell in October, and more recently, we have to fix the Williamsburg Bridge in which the Harlem Hospital and other municipal hospitals in the city are facing substantial budget cuts to their operating budgets. I suppose we will get through this alarum and excursion as we have others over the years, but really it would be much better for the children, if not for aging directors of service in municipal hospitals, if we could decide once and for all that poor children are as important to this Nation as rich children and that among many other things they deserve and need adequate health care.

Now despite my complaints and exasperation, New York is better than many areas of this country which do not have such well-developed public health systems. In some States and localities the poor are left to fend for themselves in the matter of health care. There may be the occasional monthly public health clinic for women and children, but if a child needs hospitalization the family must rely upon local hospitals. And the current cost containment efforts of government and business have placed an economic gun to the heads of these hospitals, making health care for the poor child even more problematic and it was never an easy task to get medical care for the poor in the absence of publicly supported facilities.

Before I close, let me make a few comments about medicaid, the major financial source of care for the poor. When medicaid was enacted in 1965, it was designed for what we have now come to call a medical "safety net" for the poor. I know that your friend the late Wilbur Cohen, who was present at its creation, saw it as a way to make certain that medical care was available for poor women and children. But much has happened in the past 20 years or so, and in fact, by now, much of the national medicaid expenditure goes to nursing home services for the elderly rather than for direct medical care for the poor. In addition in the past decade, the program has faltered in its stated goal of health care for the disadvantaged. Medicaid has not been extended to some 12.6 million citizens who live below the poverty line, never mind the 10.3 million who are medically indigent. Moreover, the percentage of the poor covered by medicaid has fallen dramatically since 1976 when it covered 65 percent of poor families. By 1984, only 38 percent of the disadvantaged were covered by medicaid.

Finally, medicaid has a fatal flaw called a means test. We don't want any undeserving rascals to get anything for free, especially if they are poor or of minority status. So with considerable righteous indignation, which flares every now and then, often during political seasons, we have developed with the help of computers a convoluted, bureaucratic system which seems perversely designed to prevent the poor from access to this program. I suggest that if you or I suddenly faced economic catastrophe and at the same time serious medical problems, we, with our obvious intellectual and social skills would be hard pressed to manage to get ourselves enrolled in medicaid. Why should we wonder that those with less educational background and social-skills have such problems?

What do we do about all this? I must say, Congressman Scheuer, I am puzzled that you asked me to testify, for I know that you knew in 1976 what to do about medical care for the women and children of this Nation. The Scheuer-Javits legislation you introduced that year remains in my mind the best solution to the problems of health care for this group. Now I do understand, I suppose, about this $400 billion deficit and I do accept, I guess, that we as a nation are not about to embark upon any grand new social legislation in the near future. But the principles embodied in your legislation remain important. It is dumb, nationally penny wise and pound foolish, not to provide adequate medical care for children and their mothers—all children and all mothers. And I really don't care how we do it. I don't care if it's the State governments. I don't care if it's the Federal Government, through the private sector or the public sector. However we do it, it must be simple, uniform and easy. I do not envy your job, for you in the Congress must define the Nation's priorities, how you will spend our money, and I do understand how complicated and conflicting these priorities can be. But surely it is self-evident that our children must come first. That, sir, is first a moral issue, by which history will surely judge us. It is also a practical issue, for as you and I become vulnerable from age, we will rely upon them for support and comfort. How can we expect them to provide for us, if we have not given our best effort when they were vulnerable as children? Thank you, Mr. Chairman.

[The prepared statement of Dr. Heagarty follows:]

PREPARED STATEMENT OF MARGARET C. HEAGARTY, M.D.

I am honored to have the privilege of testifying before this distinguished Congressional committee. While I understand that you are interested in the control of health care costs, I am encouraged that you are also concerned about the unfortunates of our nation who do not have adequate health care.

I am the director of pediatrics of Harlem Hospital Center, one of the public general hospitals administered by the New York City Health and Hospitals Corporation. Harlem Hospital is located in Central Harlem, a disadvantaged community of the borough of Manhattan. My comments will have the values and the biases of the perspective of one who works in an embattled Hill Street Blues type of medical institution, which is chronically underfunded but nevertheless is also the place of last resort for the sick poor of Harlem. And this experience may instructive, for in many ways the problems of health care in Harlem reflect many of the problems of the nation's health care system.

Let me set the stage with a few numbers. Some 35 or 40 million citizens under the age of 65 have no health insurance whatever, neither private insurance nor government insurance and 60% of these citizens are either women of childbearing age or children. Where do they get their health care?

Well, I will give you a precise example. Policy makers and in this season politicians are fond of quoting the nation's infant mortality figures. And depending upon their ideological stripe they view with alarm or with pride. Indeed every two or three years Congress establishes yet another commission or a study of this matter, several are about to report for this season, one more time why our mortality rates are so much higher than those of other industrialized nations and why there remain such discrepancies in the rates found among women of different social classes or minority status. But what do all these figures really mean?

Harlem has the highest infant mortality rate in the city of New York, it also has many poor people without health insurance. But the data are quite clear, women without health insurance delay or do not get prenatal care. And the data are equally clear, early participation in prenatal care and good obstetrical care will reduce infant mortality rates and as important reduce the rate of low birth weight infants. And every time we reduce the numbers of low birth weight newborns, we also reduce the number of chronically ill children who suffer a variety of handicapping conditions. And who are these women. In Harlem they are often immigrants from the Dominican Republic, frightened to reveal their existence to authorities, or women who work in the marginal service jobs that have no unions and therefore no fringe benefits, they are the domestics who clean the middle homes or care for the middle class children, but who work "off the books" and have no health insurance, they are the wives of the gypsy cab drivers or the filling station gas pumpers. In other areas of the country, in Texas for example, they are the wives whose husbands have lost their jobs because of economic recession or dislocation. They are legion, and they often are just making it, but they have not given in to the welfare mode. And when they become pregnant, they do not have the money to get prenatal care, and so their infants begin their lives at risk.

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Now despite my complaints and exasperation, New York is better than many areas of this country which do not have such well developed public systems of health care. In some states and localities the poor are left to fend for themselves in the matter of medical care. There may be the occasional monthly public health clinic for women and children. But if a child needs hospitalization the family must rely upon local hospitals. And the current cost containment efforts of government and business have placed an economic gun to the heads of hospitals which makes medical care for poor children even more problematic and it was never an easy task to get medical care for the poor in the absence of publicly supported facilities.

Before I close, let me make a few comments about Medicaid, the major financial source of care for the poor. When Medicaid was enacted in 1965, it was designed as what we would now call a medical "safety net" for the poor. I know that your friend the late Wilbur Cohen, who was present at its creation, saw it as a way to make certain that medical care was available for poor women and children. But much has happened in the past 20 years or so, and in fact, by now, much of the national Medicaid expenditure goes to nursing home services for the elderly, rather than for direct medical care for the poor. In addition in the past decade, the program has faltered in its stated goal of coverage of all of the disadvantaged. Medicaid has not been extended to some 12.6 million citizens who live below the poverty line, never mind the 10.3 million who are medically indigent. Moreover the percentage of the poor covered by Medicaid has fallen dramatically since 1976 when it covered 65% of poor families. By 1984, only 38% of the disadvantaged were covered by Medicaid.

Finally Medicaid has a fatal flaw called a means test. We don't want any undeserving rascals to get anything for free, especially if they are poor or of minority status. So with considerable righteous indignation, which flares every now and then, often during political seasons, we have developed with the help of computers, of course, a convoluted, bureaucratic system which seems perversely designed to prevent the poor from access to the program. I suggest that if you or I suddenly faced economic catastrophe and at the same time serious medical problems, we, with our obvious intellectual ahd social skills would be hard pressed to manage to get ourselves enrolled in Medicaid. Why should we wonder that those with less educational background and social skills have such problems.

What do we do about all this? I must say, Congressman Scheuer, I am puzzled that you asked me to testify, for I know that YOU knew in 1976 what to do about medical care for the women and children of this nation. The Scheuer/Javits legislation you introduced that year remains in my mind the best solution to the problems of health care for this group. Now I do understand vaguely about this $400 billion deficit and I do accept, I guess, that we as a nation are not about to embark upon any grand social legislation in the near future. But the principles embodied in your legislation remain important. It is dumb, nationally penny wise and pound foolish, not to provide adequate medical care for children and their mothers, all children and all mothers. And I really don't care how we do it, I don't care if it's the states or the feds, through the private or public sector, but however we do it must be simple, uniform and easy. I do not envy your job, for you in the Congress must define the nation's priorities, how we will spend our money, and I do understand how complicated and conflicting these priorities can be.. but surely it is self evident that our children must come first. That sir, is first a moral issue, by which history will surely judge us. It is also a practical issue, for as you and I become vulnerable from age, we will rely upon them for support and comfort. How can we expect them to provide for us, if we have not given our best effort when they were vulnerable as children.

Representative SCHEUER. Thank you very much, Dr. Heagarty. Mr. Jacob Feldman.

STATEMENT OF JACOB J. FELDMAN, ASSOCIATE DIRECTOR FOR ANALYSIS AND EPIDEMIOLOGY, NATIONAL CENTER FOR HEALTH STATISTICS, CENTERS FOR DISEASE CONTROL, PUBLIC HEALTH SERVICE, DEPARTMENT OF HEALTH AND HUMAN SERVICES

MORTALITY AND MORBIDITY TRENDS

Mr. FELDMAN. Thank you, Mr. Chairman. Much of what I was planning to say in my introductory remarks has already been covered by the speakers in the first panel and, therefore, I shall simply summarize by saying that mortality rates for older people have been declining rapidly for the past two decades. Mr. Carozza and others have elaborated on that.

What are the implications of this remarkable decline in mortality for the health status of the living population? This is a matter of considerable controversy. It is not even completely clear what the trends have been in the recent past, let alone what the future is likely to bring. Mr. Vaupel and others in the first panel have referred to these problems. I would like to clarify some of the ambiguities. I shall focus on the prevalence of illness here because it is closely related to the use of medical care, and I shall give some attention to the controversy over future trends.

Mr. Binstock alluded to Dr. James Fries of Stanford, and I will be describing his position somewhat. Dr. Fries holds that we shall soon be delaying the onset of chronic conditions to considerably older ages than is now the case and that this age shift will result in a compression of morbidity. Dr. Fries operates on an assumption very different from Mr. Vaupel's. He assumes that one's lifespan is not going to increase much beyond 85 years.

People will on the average be spending a shorter portion of their lives in a state of ill health than has been the case in the past. Dr. Fries believes that the adoption of various health promotion and disease prevention measures will postpone many lethal diseases until such an old age that most afflicted individuals will survive for only a relatively short period of time following onset of disease. In other words, this is a notion of the frailty that comes with advanced age so that someone who suffers the onset of a chronic illness at an advanced age will only live for a short time. I believe that Ms. Verbrugge will be also dealing with this issue.

The net effect according to Dr. Fries, would be an appreciable decline in the prevalence of most chronic diseases. However, we are currently experiencing a countertrend where improved survival of individuals after the onset of illness increases the presence of chronic conditions. It appears that people are now living longer after they become ill. There is, for instance, evidence that on the average, people are surviving for a longer period of time subsequent to a heart attack than they did in the past. Such improved survival rates obviously tend to result in the increased prevalence of chronic conditions. For most chronic illnesses, the knowledge required to effect complete cures or even complete rehabilitation is not on the immediate horizon. Thus, people who survive for a long period of time after the onset of a chronic disease are, for the remainder of their lives, generally in need of more medical care than the average person. In addition, there are many chronic conditions for which the ranks of the afflicted have in the past been thinned out by elevated death rates from the complications of heart disease or pneumonia. Mr. Binstock mentioned Alzheimer's disease and various other mental and neurological conditions—he described the problem of incontinence and so on. It seems likely that the improved prevention and treatment of lethal conditions such as heart disease and pneumonia would tend to increase, at least in the short term, the prevalence of other chronic conditions that we do not yet know how to prevent or cure.

Now in the absence of complete or very substantial cures, is the downward pressure of health promotion and disease prevention on the prevalence of chronic conditions greater or less than the impact of improved survival? Will we be able in the foreseeable future to postpone the onset of most disease to such an old age that the prevalence of illness and the need for medical care will actually diminish? The answers to these questions depend on the success of health promotion and disease prevention efforts as well as our success in prolonging life for those afflicted with chronic diseases.

Permit me to illustrate the problems in predicting the future course of disease prevalence by considering trends in diabetes. On the basis of reports from a sample of families in the National Health Interview Survey of the National Center for Health Statistics, we estimate that in 1963 there were about 800,000 individuals age 65 or older with diabetes. On the basis of reports by families to the same survey in 1986, we estimate that there were by then 2,700,000 people in that age group with diabetes. Thus, in the 23 years between 1963 and 1986, the number of cases of diabetes in that age group has more than tripled. Obviously, some of this increase is due to the increase in the size of the population aged 65 or older. That population increased about 60 percent, so we in fact see that most of the increase is due to the prevalence. The prevalence in 1963 was about 5 percent among those 65 and older; by 1986, that prevalence had reached 10 percent. We have had a doubling in the prevalence over that 23-year period.

Representative **Scheuer**. Excuse me, Mr. Feldman. Could some of that increase be attributable to better diagnostic procedures?

Mr. **Feldman**. Yes, I think a great deal of the increase can be attributed to better diagnosis which has substantial consequences for the use of health care services even if the true prevalence is not increasing.

Representative **Scheuer**. Please go ahead.

Mr. **Feldman**. Some possible explanations include: Improved detection. Owing to more widespread access to medical care, greater vigilance on the part of the medical profession, advances in methods of detection and/or greater health consciousness on the part of the general public, a larger proportion of the total actual cases of diabetes are now being diagnosed. The analogy to an iceberg has frequently been employed. The diagnosed cases have been viewed as merely the tip of the iceberg. A larger part of the iceberg may now be showing.

Changes in case definition. There has been a lowering of the threshold for the diagnosis of diabetes. This has not been major but there has been some of that. Cases are now being treated that would not have been treated in the past. You earlier referred to elevated cholesterol levels. Certainly the standards for treatment have changed radically for cholesterol and high blood pressure. Again, there has been a change in the standards for treatment.

Cases of the disease have been developing in a larger proportion of the population than in the past. That's increased incidence. There is very little evidence for that in the case of diabetes, but it is an explanation that needs to be explored.

Finally, improved survival. Individuals are living for a longer period of time subsequent to the onset of the condition. In the past, heart disease thinned the population a great deal of those with diabetes. With the improvement in the prevention and the management of heart disease, that has clearly had much less of an effect. Improved survival together with the improved detection are clearly the two main reasons for the upturn in diabetes prevalence.

Now I think it is important to recognize the potential consequences of these countertrends. Certainly, improved detection of disease and lowering the threshold for the definition of a case can result in a marked increase in the effective demand for medical care in the absence of any real change in the disease process. Similarly, advances in medical technology, changes in treatment standards or conventions, and changes in access to care can be major determinants of changes in the use of medical services.

I do not wish to give the impression that the large increase in the reported prevalence of diabetes is typical of all chronic conditions. Some conditions have undoubtedly become less common during the past two decades. At the same time, we must remember that declining mortality from any particular disease, in and of itself, tells us very little about trends in prevalence for that disease or any other disease. The rapid decline in mortality from heart disease, perhaps the most remarkable health phenomenon of the past two decades, has been accompanied by an increase in the prevalence of reported heart disease. In other words, our surveys find more people with a diagnosis of heart disease and being treated for heart disease than in the past. There is now a higher rate than ever.

The successful management of high blood pressure has probably been one of the factors responsible for the decline in heart disease mortality. For the entire gamut of reasons listed above in connection with diabetes, the prevalence of reported hypertension has been increasing.

The situation with regard to functional limitations has been similar to that of chronic disease prevalence. Functional limitations are also either staying at the same level or increasing.

We should not extrapolate the trends of the past two decades. It is conceivable that as we learn more about how to prevent or delay the onset of disease and as we become more successful in gaining adherence to healthy regimens, the trends in prevalence will turn downward. We should keep in mind that, had we been enjoying improving survival rates without an accompanying postponement in the onset of disease, prevalence rates for some conditions would have been growing much faster than they have. But, I personally believe that the value of prevention and of life-saving procedures should not be assessed in terms of the prevalence of chronic conditions or functional limitations. Delaying or preventing the onset of disease and improving survival rates for people who become ill are intrinsically desirable whether they result, in the long run, in a net reduction or net increase in medical care costs. In any case, as I have suggested in the foregoing, there are a great many other factors that have as much, if not more, influence on medical costs than have disease rates.

This concludes my formal remarks and I will be available for any questions.

[The prepared statement of Mr. Feldman follows:]

PREPARED STATEMENT OF JACOB J. FELDMAN

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

I appreciate the opportunity to appear before you to discuss trends in health status among the elderly and some of the implications of these trends. I am Jacob J. Feldman Ph.D., Associate Director for Analysis and Epidemiology of the National Center for Health Statistics (NCHS), a part of the Centers for Disease Control. NCHS is the nation's principal health statistics agency, with broad responsibility for monitoring the health of the nation.

I have been asked to present the evidence regarding health trends among the older segments of the population. Mortality rates for this group have been declining rapidly for the past two decades. For instance, according to the mortality rates of 1968, a 65 year old man could at that time have expected to live another 12.8 years; that is, until almost his 78th birthday. Under current mortality rates, life expectancy at age 65 is about two years greater; a 65-year-old man can now expect to live until nearly age 80. While this two-year increase in life expectancy may not appear very large, consider that life expectancy for men at age 65 increased by less than two years over the first seven decades of this century. The trend for women has been quite similar to the trend for men; in 1968, life expectancy at age 65 was 16.6 years. It has increased by about two years since that time.

What are the implications of this remarkable decline in mortality for the health status of the living population in the older age groups? This is a matter of considerable controversy. It is not completely clear what the trends have been in the recent past, let alone what the future is likely to bring. I would like to clarify some of the ambiguities surrounding this issue.

The first issue pertains to the definition of health status. There are a number of useful ways of characterizing the health of a population group during a given time period. Since the major focus of these hearings is on the implications of trends in health status for the health care costs that may be incurred in the future by older people, I shall concentrate on the prevalence of chronic diseases in that group. By the prevalence of a condition I mean the number of individuals with that condition at a given time. This measure can be stated as a count of afflicted individuals, as a percent of a given population group, or as a rate. For instance, we have estimated that there were about 2,700,000 individuals aged 65 or older in the noninstitutional population in 1986 who believed themselves to have diabetes, and had been so diagnosed by a physician. That constitutes about 10 percent of the noninstitutional population in that age group. These prevalence estimates are based on the 1986 National Health Interview Survey conducted by the National Center for Health Statistics. While many alternative measures of ill-health have their proponents, the prevalence of particular chronic conditions is most useful because it can be closely related to the use of such services as short-term hospitals, ambulatory physician services, and prescribed pharmaceutical products.

I indicated earlier that there is considerable controversy over past and future trends in health status. Those at one pole hold that we shall soon be delaying the onset of chronic conditions to considerably older ages than is now the case and that this age shift will result in a compression of morbidity; that is, people will, on the average, be spending a shorter period of their lives in a state of ill-health than has been the case in the past. It is believed by the proponents of this position that the adoption of various health promotion and disease prevention measures will delay the onset of a number of lethal diseases until such an old age that most afflicted individuals will survive for only a relatively short period of time following onset. Their terminal illnesses would thereby constitute considerably less of a burden to the society than is now generally the case. According to this scenario, death rates up to about ages 80 or 85 will continue to decline, but death rates at older ages will increase above their current levels. The net effect of the various trends would be an appreciable decline in the prevalence of most chronic diseases for the age groups of concern to us here today.

Within a population, the improved survival of individuals after the onset of illness would tend to increase the prevalence of chronic conditions, while at the same time, the delayed onset of illness would tend to decrease that prevalence. The theory of the compression of morbidity assumes that in the future people will generally remain alive in a diseased state for a shorter duration than at present. It appears that people are now living longer even after the onset of illness. There is, for instance, evidence that on the average, people are surviving for a longer period of time subsequent to a heart attack or other manifestations of the onset of heart disease than they did in the past. Such improved survival rates obviously tend to result in the increased prevalence of chronic conditions. For many chronic illnesses, the knowledge required to effect complete cures is not on the immediate horizon. Thus, people who survive for a long period of time after the onset of a chronic disease are generally in need of more medical care than the average person for the rest of their lives. In addition, there are chronic conditions that are not in and of themselves immediately lethal but for which the ranks of the afflicted have in the past been thinned by elevated death rates from heart disease and pneumonia. Alzheimer's disease and various other mental and neurological conditions are examples of this phenomenon. It seems likely that the improved prevention and treatment of lethal conditions such as heart disease and pneumonia would tend to increase at least in the short term, the prevalence of such other chronic conditions that we do not know how to prevent or cure.

It is difficult to gauge the balance of the two opposing forces with regard to the prevalence of chronic conditions in the older population. In the absence of complete or very substantial cures, is the downward pressure of health promotion and disease prevention on the prevalence of chronic conditions greater or less than the impact of improved survival? Will we be able in the foreseeable future to postpone the onset of most disease to such an old age that the prevalence of illness and the need for medical care will actually diminish? The answers to these questions depend on the success of health promotion and disease prevention efforts as well as our success in prolonging life for those afflicted with chronic diseases.

Permit me to illustrate the problems in predicting the future course of disease prevalence by considering trends in diabetes, a disease for which we have somewhat better data than for most others. On the basis of reports from a sample of families in the 1963 National Health Interview Survey, we estimate that there were about 800,000 individuals age 65 or older with diabetes at that time. On the basis of reports by families to the same survey in 1986, we estimate that there were by then 2,700,000 cases among individuals who were 65 or older. Thus, in the 23 years between 1963 and 1986, the number of cases of diabetes in that age group has more than tripled. Obviously some of this increase is due to the increase in the size of the population aged 65 or older. That population grew by only about 60 percent over the time period; thus, the change in population can account for only a relatively small part of the increase in the number of older diabetics. Most of the increase in the number of cases appears to reflect the increase in the prevalence rate. We estimate that in 1963, five percent of those aged 65 or older had diabetes; we estimate that figure had reached 10 percent by 1986. Thus, we appear to have had a doubling of the prevalence rate. Due in part to the decline over the past two decades in the death rates experienced by older people, there has been a shift towards the "older" old among those aged 65 and over. While this shift has general implications for the demand for health services, it was not large enough to account for more than a small part of the increase in the prevalence rate for diabetes.

We don't really understand why the prevalence rate doubled. Among the explanations that need to be considered are the following:

1. Improved detection: Owing to more widespread access to medical care, greater vigilance on the part of the medical profession, advances in methods of detection, and/or greater health consciousness on the part of the general public, a larger proportion of the total actual cases of diabetes are now being diagnosed. The analogy to an iceberg has frequently been employed; the diagnosed cases have been viewed as merely the tip of the iceberg. A larger part of the iceberg may now be showing.

2. Change in case definition: There has been a lowering of the threshold for the diagnosis of diabetes. The medical profession currently views as warranting management and treatment cases that would have in the past been viewed as within the normal range.

3. Increase in incidence: Cases of the disease have been developing in a larger proportion of the population than in the past.

4. Improved survival: Individuals are living for a longer period of time subsequent to the onset of the condition.

Improved survival and improved detection have almost certainly both played a major role in the extraordinary increase in diabetes prevalence. While I have focused in this presentation on the impact of improved survival on the prevalence of chronic conditions, the other forces listed above can also have an impact on the use of medical care. Certainly, improved detection of disease and changes in the definition of a case can result in a marked increase in the effective demand for medical care in the absence of any real change in the disease process. Similarly, advances in medical technology, changes in treatment standards or conventions, and changes in access to care can be major determinants of changes in the use of medical services.

I do not wish to give the impression that the large increase in the reported prevalence of diabetes is typical of all chronic conditions. Some conditions have undoubtedly become less common during the past two decades. At the same time, we must remember that declining mortality from any particular disease, in and of itself, tells us very little about trends in prevalence for that disease or any other disease. The rapid decline in mortality from heart disease, perhaps the most remarkable health phenomenon of the past two decades, has been accompanied by an increase in the prevalence of reported heart disease. The successful management of high blood pressure has probably been one of the factors responsible for the decline in heart disease mortality; for the entire gamut of reasons listed above in connection with diabetes, the prevalence of reported hypertension has been increasing. While I have dealt here only with disease prevalence, the situation with respect to functional limitations is rather similar. People with various types of impairments are generally living longer than in the past. Only to the extent that we can make major progress in postponing the onset of such limitations or in rehabilitating the afflicted will we see a reduction in the rate of disability. Up to the present time, the effects of prolonging life among those with functional limitations appears to have approximately balanced any effects of prevention and rehabilitation.

We should not extrapolate the trends of the past two decades. It is conceivable that as we learn more about how to prevent or delay the onset of disease and as we become more successful in gaining adherence to healthy regimens, the trends in prevalence will turn downward. We should keep in mind that, had we been enjoying improving survival rates without an accompanying postponement in the onset of disease, prevalence rates for some conditions would have been growing much faster than they have. But, I personally believe that the value of prevention and of life-saving procedures should not be assessed in terms of the prevalence of chronic conditions or functional limitations. Delaying or preventing the onset of disease and improving survival rates for people who become ill are intrinsically desirable whether they result, in the long run, in a net reduction or net increase in medical care costs. In any case, as I have suggested in the foregoing, there are a great many other factors that have as much, if not more, influence on medical care costs than have disease rates.

Mr. Chairman, this concludes my formal testimony. I will be glad to try to answer any questions you or other members of the Subcommittee may have.

Representative SCHEUER. Thank you very much, Mr. Feldman. Now we will hear from Ms. Verbrugge.

STATEMENT OF LOIS M. VERBRUGGE, ASSOCIATE RESEARCH SCIENTIST, INSTITUTE OF GERONTOLOGY, UNIVERSITY OF MICHIGAN

Ms. VERBRUGGE. Mr. Chairman, some of my comments will reiterate past themes but repetition only reflects the interest and concerns of the academic community and needs for research and also congressional attention.

What has been happening over the past 30 years to middle-aged and older adults' health? How are population morbidity and population mortality linked to each other? What are the future prospects for health and disability in these age groups?

I'm going to begin with theory rather than numbers, about the links between morbidity and mortality. People of a given age vary in their frailty; that is, their vulnerability to disease and death, whether based on genetic or acquired reasons. Placed together in a society, a whole population of individuals is very heterogeneous in its robustness. Frailer individuals in a birth cohort or a group die sooner, and over time a group ends up with individuals more and more strongly selected for robustness. The selection is especially strong at elderly ages; those who remain in the population at ages 80 and 85 are really very special folks in terms of intrinsic frailty.

When mortality rates are high in a population, selection operates very vigorously, winnowing with a wide sieve. By contrast, in a society like ours, where mortality rates are low, the winnowing is far less energetic, and people with multiple chronic conditions, physical dysfunctions, and social disabilities often stay alive for many years.

I'm going to now give this theory some real-world dynamics and data. In the late 1960's, as we all know, U.S. mortality rates took a very unexpected turn downward, especially for the older population. It's now widely agreed that the main reasons for those downturns were better control in circulatory conditions, more widespread access to medical care, and also to some extent personal lifestyle behaviors.

At the same time, one asks, what has happened to health over the same period in which we have experienced major mortality declines? As a preface to answering that, we need to distinguish three kinds of health prevention, since they influence the morbidity-mortality linkage in different ways.

So let's start with what's called tertiary prevention; this is saving people at the very brink of death. It's often called heroic care. Death is deterred in this case for just a little while, without influencing the principal disease process at all. People live a little bit longer, but not very much longer. And relatively few people get heroic care. So the impact of tertiary prevention on mortality and morbidity is actually quite small. It reduces mortality just a little and raises morbidity and disability just a little as well.

A contrast is secondary prevention, which is the control of fatal chronic diseases so they advance less rapidly. This is a cardinal feature of contemporary medical care both in this decade and the past few decades. So people survive better, but they live many more years with a given chronic condition. Significant advances in secondary prevention have very profound and opposite effects on morbidity and mortality, dropping mortality substantially. At the same time, one can anticipate marked increases in morbidity and disability in a population, simply because the sick people are staying alive—staying with us rather than departing.

Primary prevention, of course, is our dream. This aims at preventing the clinical onset of diseases. Whether it's accomplished by medical or personal behaviors, primary prevention works in a very different way from the other two kinds. It diminishes both morbidity and mortality. People aren't sick and people don't easily die.

Now, because the skill of contemporary medicine lies in secondary and tertiary care—and that's what doctors are proud of and medical researchers are proud of—and also because lifestyle changes put into people's lives in the 1960's and 1970's are more likely to have helped control disease than actually prevent them entirely, it's logical to conclude that our recent mortality declines have been accompanied by a greater social burden of illness, especially for the older age groups.

What do the data say? Health trends for the United States largely but unevenly support this theory. A number of scientists have turned to the National Health Interview Survey, which Mr. Feldman mentioned, which is our only major source for trend data. It is the best source for trend data in the United States since it has been conducted continuously since 1957. Consistently, researchers find that there have been increases in short-term disability for middle-aged and older people, largely since about 1970. More striking are the indicators of long-term disability. That means major limitations in one's ability to work, do housework, or secondary activities. Those show pronounced increases for the middle-aged group and evident, but smaller, increases for older age groups.

At the same time, prevalence rates for most fatal diseases have risen, and rates have risen also for major nonfatal conditions, such as arthritis and musculoskeletal conditions. There is no good reason to think that risk factors for the fatal and nonfatal conditions have changed so that their incidence has increased. So most of our minds turn, in other words, to explaining the prevalence increase by the fact that people are living longer with whatever condition is of concern.

There are a variety of reasons lying behind these trends which are in my testimony and Jack's as well, and the trends are not as clear as one would hope. Nonetheless, it is the consensus of numerous scientists that declining mortality is one of the major candidates behind worsening trends in population health for middle-age and older people.

FUTURE MORTALITY AND MORBIDITY TRENDS

What about the future? Here is my own judgment in the matter. The next 50 years or so will be largely a continuation of current trends. Discontinuity doesn't happen easily in a great big population. Mortality gains are going to continue to be mirrored by an increase in the prevalence in disease and disability. Somewhat later there may be an intermediate zone with powerful pushes from both medical control and also primary prevention. Then we may see larger proportions of older people both in very ill health and also very vigorous health. In other words, an increase at both poles of health. That's not going to happen soon, but it is in the future that we can anticipate.

The far future may indeed entail delay of disease onset for a lot of people until near the end of their lives. Researchers call this the compression of morbidity, but such a wonderful scenario is not near at hand. It is too far off even for the youngest citizens now with us to anticipate.

But something important has been left out of my comments so far. When we consider the links between morbidity and mortality, we talk about fatal conditions. Fatal conditions are traveling between those two points. Where are arthritis, hearing impairment, chronic low back pain, and the many other conditions that bother but do not kill? Less research attention goes to nonkiller diseases and impairments than to killers, so our knowledge of the risks and remedies for the nonkillers is always less abundant. Presuming that we learn more about the etiology of killers and that that knowledge gets incorporated into medical care and personal lives over the long run, we're gradually going to see a change in the distribution of chronic diseases that older people have. Nonfatal conditions are going to ascend in prominence in people's lives and also health statistics, and that's a very important point.

Arthritis especially has to be mentioned because it is the most prevalent and the most often limiting condition for middle-aged and older people, surpassing any other disease that anyone has mentioned today. There is no sign that medical research or lifestyle behaviors will change that situation for arthritis. The future holds a great deal of arthritic pain and disability for the U.S. population.

I'm going to conclude by saying something about how we must distinguish between aggregate or social views of changes of the future and individual views. Let me be explicit.

Although anticipated medical and personal efforts to control disease will often result in worsening health statistics for the United States, they will lessen the average discomfort and disability experienced by individuals. There will be a shift toward mildness. Although older people will be ill and disabled, and counted as such in statistics, they will have milder disabilities and illnesses than before. But achieving that outcome will depend very much on how much attention our society gives to disability as well as disease. Most of our medical research has been focused on disease, but we have to turn our attention to disability. Efforts must be made to provide a whole array of services and opportunities to keep people who have chronic conditions living independently and with maximal possible function.

If we choose to keep people alive, and we accept the fact that they will have chronic conditions because we aren't going to figure out how to get rid of them very fast, then we have to also choose to provide a milieu in which people can live a satisfying and very productive late life.

[The prepared statement of Ms. Verbrugge follows:]

PREPARED STATEMENT OF LOIS M. VERBRUGGE

What has been happening over the past 30 years to middle-aged and older adults' health? How are population morbidity (by that, I mean prevalence of chronic health problems) and population mortality linked to each other? What are the future prospects for health and disability in these age groups?

Let me begin with sound theory about the links between morbidity and mortality: People of a given age vary in their frailty; that is, their vulnerability to disease and death. A particular individual's level of frailty comes about from some mix of genetic and acquired-in-life reasons. Placed together in a society, a whole population of individuals is heterogeneous in its robustness; some people are better able to stand fast in face of health insults, while others are less so. Frailer individuals in a group (birth cohort) die sooner, and over time a group ends up with individuals more and more strongly selected for robustness. The selection is especially strong at older ages; those who remain at ages 80 and 85 are quite special folks.

When mortality rates are high in a population, selection operates vigorously, winnowing with a wide sieve. By contrast, in a society like ours, where mortality rates are low, the winnowing is far less energetic, and people with multiple chronic conditions, physical dsyfunctions, and social disabilities often stay alive for many years. This not only produces protracted individual-level discomfort and limitation, but also a large social burden of disease and disability.

Let us give this theory some real-world dynamics and data. In the late 1960's, U.S. mortality rates took an unexpected turn downwards, especially for the older population (ages 65+). Other developed countries also show improving mortality in the 1970's and 1980's. It is now widely agreed that these improvements have come about through a combination of medical progress in control of fatal circulatory diseases, more widespread access to medical care, and better personal lifestyle behaviors (such as improved nutrition and less smoking). Abrupt changes in mortality, such as our recent ones, are more likely due to medical progress than personal practices, which shift slowly in a population and usually require years of devotion before they pay off in terms of health and longevity. Thus, the main initiating factors of our new mortality declines are probably medical, and lifestyle practices have helped continue them.

What has happened to health? As a preface to answering that, we need to distinguish three kinds of health prevention, since they influence the morbidity-mortality linkage in different ways.

(1) Tertiary prevention is saving people at the brink of death by costly medical measures, either by maintaining basic life processes (called heroic care) or by curing/averting fatal complications of certain diseases. Death is deterred a little while, without influencing the principal disease process at all. Extremely ill people stay in the alive population for a time, then die anyway. Great advances have been made in tertiary care over the past several decades. But relatively few people actually get this kind of intensive care. Thus, improvements in tertiary care cause mortality rates to drop only a little, and they increase population morbidity and disability only a little (though certainly at the "high" end).

(2) Secondary prevention is control of fatal chronic diseases so they advance less rapidly. This is a cardinal feature of contemporary medical research and practice, in this decade and recent ones. People survive better (thus, lower case fatality), but then have a disease more years of their lives. Significant advances in secondary prevention have profound and opposite effects on population mortality and morbidity, pushing the first downward and the second upward. Prevalence of disease and disability rises because larger percents of ill people in an age group stay alive, and are here to report their health problems in surveys and medical records.

(3) Primary prevention is our dream: to prevent the clinical onset of diseases. Whether accomplished by medical or personal practices, primary prevention works in a very different way from the other two forms. It reduces not just mortality but also morbidity and disability as well. People are simply not sick.

In short, secondary prevention has the most potential for producing inverse, or opposite, shifts in population morbidity and mortality. The more deaths are delayed due to therapeutic interventions, the more "marginal survivors" stay in the population. Because the skill of contemporary medicine lies in secondary and tertiary care, and also because lifestyle changes among older cohorts in the past few decades are more likely to have helped control diseases than prevent them entirely, it is logical to conclude that our recent mortality declines have resulted in a greater social burden of illness, especially among older adults. Ill people have been saved, and population frailty increased.

Health trends for the U.S. support this theory. A number of scientists have turned to the National Health Interview Survey, conducted continuously since 1957, to track trends. Consistently, they find evidence that short-term disability (days of cutting down regular activities due to illness and injury, and bed days due to same) has increased for middle-aged and older people, largely since

1970. More striking are indicators of long-term disability, such as complete and partial limitations in job activity, housework, and secondary activities. These show pronounced increases among middle-aged men and women, and evident, but smaller, rises for older people. For middle-aged people, disability has risen fastest at severe levels; for older people, at mild ones.

Prevalence rates for most fatal diseases (leading causes of death such as diseases of heart, diabetes, cerebrovascular disease, and so on) have increased. The same is true for prominent nonfatal diseases, especially arthritis and other musculoskeletal conditions. Rises in prevalence come about by increased incidence and/or increased duration. There is no good reason to assert that risk factors have risen dramatically to increase incidence; thus, most of the prevalence increase is likely due to people having a disease for more years of their lives.

What lies behind these statistics of worsening health? (1) As just discussed, mortality declines are certainly a strong candidate; many sick people have been rescued from early death. Sick or not, longer lives also elevate people's chances of acquiring new chronic conditions, and of ending up with multiple conditions and some disability. But other reasons figure as well: (2) People are now more aware of their chronic diseases than before, due to improved diagnostic techniques, more frequent vists to physicians, and more frankness by physicians. Greater awareness leads to higher reporting in surveys and thus higher prevalence rates. (Those rates are not "false" or artifactual, but actually truer than before.) (3) People may be more willing and able to adopt the sick role, both for short periods and long ones, than several decades ago. There are ampler social supports for disability, and public attitudes about long-term disability have become more gracious. (4) Improvements in interviewing and survey design may elicit fuller reports of illness and disability.

It is important to remember that the trends are somewhat uneven, and there is certainly a variety of possible reasons behind them. But, mortality declines are undoubtedly a key factor. In a society like ours, with medicine achieving disease control rather than cure or initial prevention, it is certain (in my mind and many others') that longer life means worsening population health.

What about the future? Here is my judgment. As the three forces of prevention ascend and fade in their (absolute and relative) importance, the links between morbidity and mortality will shift. To be explicit, the near future of 50 years or so will be largely a continuation of the current situation. Mortality gains will be mirrored by increases in prevalence of disease and disability. Somewhat later, there may be an intermediate zone with powerful pushes from both medical control and also primary prevention. We may then see larger proportions of older people in very poor health and vigorous health; thus, an increase at both poles of health. Though secondary and primary prevention will both drive mortality rates down, they have competing impact on morbidity (the former making it rise, the latter making it fall). It is hard to know how health statistics will change in this situation. The far future may indeed entail delay of disease onset for most people until near life's end. Researchers call this the "compression of morbidity". But such a wonderful scenario is not near at hand; it is too far off for even our youngest citizens to anticipate.

Something important has been left out of this discussion so far. When considering the links between morbidity and mortality, we look at fatal diseases and ignore nonfatal ones. Where are arthritis, hearing impairment, chronic low back pain, and the many other conditions that bother but do not kill? Less research attention goes to nonkiller diseases and impairments than to killers, so our knowledge of risks and remedies for the nonkillers is always less abundant. Presuming that the causes, development, and control of circulatory conditions, and maybe even cancer, will be known sooner than for arthritis, incontinence, osteoporosis, and their kin, and that this knowledge is incorporated into medical practice and lifestyles, we will gradually see the distribution of conditions shift in the population. Nonfatal ones will ascend in prominence, in both health statistics and individuals' lives. These diseases and impairments cause a vast amount of pain and disability, and longer lives will increase people's chances of having to contend with them.

Arthritis especially must be mentioned. It is the most prevalent and most common limiting chronic condition for middle-aged and older people, surpassing all fatal and all other nonfatal problems. There is no sign that medical research or lifestyle behaviors will change that situation; the future holds a great deal of arthritis pain and disability for the U.S. population.

It is also important to distinguish the aggregate social perspective from the individual one. Although anticipated medical and personal efforts to control disease progress will often result in worsening health statistics for the whole population, they will lessen the average discomfort and disability experienced by individuals. There will be a shift toward mildness. Though ill and disabled, and counted as such in health statistics, elderly people will have milder problems than today's elderly. But achieving this will depend on how much attention our society gives to disability, as well as disease. Efforts must be aimed not just at disease prevention (by primary, secondary, and tertiary routes), but also at providing a full array of services and opportunities to keep people who have chronic conditions living independently and with maximal possible function. More years of life and less progressive disease are a small gain if one cannot ambulate, reach for and grasp objects, or accomplish cherished discretionary and basic activities. If we choose to keep people alive, and accept the fact they will have chronic health problems (because our knowledge of disease causes is limited), then we must also choose to provide a milieu for productive and satisfying activity in the many years of late life.

Representative **Scheuer**. Well, that's fascinating. What kind of a milieu do you have in mind?

Ms. **Verbrugge**. I think the first panel alluded to productive activities of older years. The other end one must also consider people who really have diseases and have disabilities, not necessarily those that Mr. Binstock mentioned which are the basic activities of daily life, toileting and eating; but also lesser disabilities, when a person has to give up a cherished hobby even if it might be golf. If that is a hobby that has been the basis of much fruitful and satisfying activity, it should be just as much our attention as the more severe disabilities a person has.

So that's an appeal. It's not giving a solution. It's really an appeal that one has to look at disability with a wide scope, not just a narrow scope of making sure people are able to toilet and eat and dress themselves.

Representative **Scheuer**. Very interesting. Well, this has been a wonderful panel.

DISABILITY RESEARCH AND CARE

Can I ask all of you, starting with Ms. Verbrugge, how do you direct medical research, medical care, and medical technology toward disability?

Ms. **Verbrugge**. There's a new name for this kind of research and science. We are now calling it the "epidemiology of disability," instead of learning about the causes of disease onset, which is the classic work of epidemiology. We are now asking what is the cause of onset of disability? What are the dynamics of disability? This is a very different situation from classic epidemiology. You don't just get disabled; you can get "undisabled." You have the chance of returns to function. So researchers are becoming very interested in trying to get long-term data on individuals that track people's losses and gains of functions.

From a research standpoint, that's a statement I would make. We have to have more data that watch the natural course of disability in people's lives and find out what draws them back to function, whether it's medical or their own personal coping behaviors. Much of how people handle diseases happens at home, not at physicians' offices.

Representative **Scheuer**. Much of what?

Ms. **Verbrugge**. Much of what happens to disability and the care of diseases is what you do and you craft in your own imagination and will, rather than what a physician can offer you. The physician's repertoire of handling chronic diseases is really quite slim. They can take away pain but cannot do much more about the course of most chronic diseases. So what happens with you in your late life and how you handle it is very much up to you and paraprofessionals, rather than what classic medicine can offer to you.

Representative **Scheuer**. Well, I don't know if you were sitting here during the first panel, but I suggested that one of the long-term answers to both the cost of health care and the attractiveness and appropriateness of health care for the long-term disabled would be more use of paraprofessionals, of the elderly well taking care of the elderly infirm and disabled or whatever. It seems to me that an elderly well person with a disabled person at home could craft the kind of environment that would be most salubrious and most supportive of that person.

Could you give us any specific examples of what you're talking about?

Ms. VERBRUGGE. In terms of government aid to disabled people, the array of opportunities has to be very heterogeneous so it can help people who not only have mild disabilities but severe ones. People with mild disabilities, of course, are more numerous among us. They're the people who with just a little bit of aid—maybe to find a day care center to take care of them for a certain number of hours—get along very well and very happily for the rest of their lives. It's an issue of opening up the gates and not worrying about only severely disabled individuals, but also the less severe ones. They don't need money and they don't need medical care. They need the opportunities and the small bits of assistance.

I'm not adept on issues of health services. I'm better on the health statistics side, so maybe others will have better ideas.

Mr. FELDMAN. Well, earlier in the first panel Mr. Binstock did discuss rehabilitation and he felt that there was still a great deal of unrealized potential with regard to rehabilitation and I would like to second that.

I think that insufficient research attention is given to developing techniques of physical therapy and other related types of activities. I think greater access to those activities is possible.

Let's take a condition that Ms. Verbrugge discussed, arthritis. There is a potential there for people having somewhat reduced impairment, even though there may not be a cure, and it is possible that professional services such as physical therapy and also prosthetic devices, also changes in the home environment, can make life much easier and having the person require much less assistance.

Dr. HEAGARTY. Mr. Chairman, I have no idea what I'm doing here in the middle of all these folks interested in the elderly, and I feel slightly outnumbered, but the issue with children is different. The issue of disability with children often has to do with the perennial scientific question of nature versus nurture, that is, genetics versus the environment.

We, as a society, have not figured out how to protect our children. Starting, as I indicated in my prepared statement, to the provision—the simple-minded thing, we know how to do, where the data are there and we know how to do it. We have to make certain that every woman in this country gets prenatal care and if we do that we will lower the disability rates of children. And the disability rates of children, if the gentleman from Massachusetts who was talking about his daughter is right, a disabled child who's mentally retarded or who even just has an IQ of 70—we just knock off a few brain cells because he's 4 pounds instead of 6 pounds, just a few—what makes him dysfunctional in a highly technological society, an IQ of 80 is a handicap. It wasn't 100 years ago, but it is now. He could live to be 100 and that is real disability.

INSUFFICIENT FAMILY PLANNING

Representative **Scheuer**. Well, you're not really quite so much alone, Dr. Heagarty. You heard Mr. Harrell say that one of the goals that we haven't achieved is our family planning goals.

Dr. **Heagarty**. We certainly have done very little around family planning, around the infant mortality rate, and I think Julius Richmond in 1978 or 1980 was saying that we would wipe it out and it would be wonderful, and we're really not making any progress there.

Representative **Scheuer**. I didn't want you to think you were alone in this panel.

Dr. **Heagarty**. No, no. I was just being facetious, as usual.

Representative **Scheuer**. Right.

Mr. **Harrell**. This interest is cradle to grave, when you were talking about your notion of——

Representative **Scheuer**. Why do you think we have failed to achieve our family planning goals as well as our infant mortality goals?

Dr. **Heagarty**. I think that the social class differences in the delivery of health care have worsened, rather than bettered, over the last 10 years. And that particular social class group is the group at risk—by social class barriers, never mind access to health care—for morbidity and perinatal morbidity and mortality.

BARRIERS TO PRENATAL CARE

We have not done well in the last 10 years in getting services to that population that is poor. We have gone backward.

Representative **Scheuer**. Is that due in major part to the fact that the services simply aren't available or is it due in significant part because people are there and they know a hospital exists only eight blocks away and here is a well, pregnant 15-year-old, 14-year-old, or 13-year-old—you know she's pregnant and the hospital is a 5-minute walk and she doesn't go. Which is it, or is it both?

Dr. **Heagarty**. Well, of course, it's both, but the Institute of Medicine is about to put out a monograph on prenatal care and so I have just reviewed all that data. The data show that there are a series of barriers to the delivery of prenatal care specifically.

The first and most important barrier is the financial barrier nationally. There are places in this country where you cannot get prenatal care unless you have money and there are many women——

Representative **Scheuer**. That's certainly not true in cities.

Dr. **Heagarty**. It is true in some cities. It is less true, as I suggested, in New York City, but it is certainly true in major cities in this country.

Representative **Scheuer**. Major cities?

Dr. **Heagarty**. Yes; Miami.

Representative **Scheuer**. They don't have public hospitals there?

Dr. **Heagarty**. They have one public hospital for a major metropolitan area. There is one public hospital in the city of Houston, and if you live in suburban Houston and you're poor or you're an illegal alien, you're going to have a devil of a time getting prenatal care.

There's a series of financial barriers that are clearly preeminent and are just money—just money—not big-time money, just money.

Then there's a series of bureaucratic barriers, as I suggested. We have invented systems that nobody can understand. I was talking to somebody who was talking with the folks in North Carolina about the medicaid program. Medicaid, it turns out, in North Carolina—I'm told, this is hearsay—will provide for prenatal care but it won't provide for syringes or insulin or urine dipsticks or urine testing for a woman with gestational or diabetes or pregnancy. Now that's dumb.

Representative SCHEUER. It's aberational.

Dr. HEAGARTY. But the whole system is filled with those aberations. It's an incremental, sort of put it together, piecemeal, to the point that nobody can understand it. And you could not get yourself on medicaid, Congressman Scheuer, I'll just bet you, if you suddenly became bankrupt and had a kidney stone, you'd have a devil of a time figuring out how to do it.

Then there are a series of lifestyle behavior barriers that are quite marginal compared to the institutional and the organizational complexities and the financial barrier. We know how to prevent substantially the rate of low birthweight babies and the infant mortality rate in this country and we seem unwilling to do it. You raised the issue earlier, how do we assess these priorities——

Representative SCHEUER. How do we get this low-income low-education population group of young mothers—these young pregnant teenage girls—how do we get them to use the facilities that are there? There shouldn't be any problem of access to family planning, access to prenatal service to any young woman in Harlem. You are there and they can have access to you. You're a public hospital. You will not turn them away. Why should there be a single young girl in Harlem who doesn't have access to your family planning services, your prenatal services, your postnatal services? Why should that be?

Dr. HEAGARTY. Well, first of all, let us remember that—I've complimented the city of New York on the depth of its municipal hospital systems, but they are not always receptive, let us say. We're talking about institutional arrangements that often require young adolescents to wait long periods of time. We're talking about medicaid arrangements that——

Representative SCHEUER. You mean several hours in a day?

Dr. HEAGARTY. Several hours in a day. We're talking about medicaid arrangements that will not finance their medical care until they are well into the second or third trimester because the enrollment process is so long. We're talking about an understaffed and underfinanced hospital system.

When we get all done, half the patients in my clinic don't have any medicaid and I've got to go to Mr. Koch and get the other 50 percent because I don't want a group of mendicant monks practicing medicine there. So we run out of doctors and we run out of nurses and I must admit that there are some groups in Harlem with a level of social disorganization that will make it almost impossible to get them to come in.

NATIONAL HEALTH COVERAGE AND PRENATAL CARE

Representative **Scheuer**. Would it make any difference to that group if we went to a European style universal coverage national health program?

Dr. **Heagarty**. Yes. It may not make any difference to them, but it would give me the resources I needed to stop spending all my time and energy trying to find the marginal amounts of money just to survive. It would put a financial underpinning in so that we could then use our energies more productively in developing programs or trying to understand why certain groups of women for a variety of reasons don't seek medical care.

That problem is an interesting problem that the epidemiologists should be interested in as well—why does a woman of any social class who had breast cancer, who has a lump in her breast, after all this time and effort of telling people about lumps in their breast, delay medical care until it's too late? Those are a whole series of questions. But the health care for the poor of this country is so badly underfinanced that you have to be Robin Hood, an Indian scout, just to keep the ship *Enterprise* in operation.

Mr. **Harrell**. Mr. Chairman, I have two thoughts about this. In the hearings that I mentioned held around the country, I think probably the most talked about subject was a system for universal prenatal care and a commitment to reach everyone in the first trimester of pregnancy through outreach kinds of programs, finding those people who need those services.

The second thought about it is the Indian Health Service—you probably have heard their story—they deal with a population that is certainly among the poorer populations of our country, and have an infant mortality rate now that is below the rate for the population as a whole. It clearly is because they have been providing those prenatal services.

PREVENTIVE CARE FOR THE ELDERLY

Ms. **Verbrugge**. Mr. Chairman, may I switch things back to the other end of the pendulum again?

Representative **Scheuer**. By all means.

Ms. **Verbrugge**. I think it's well and good to have someone representing the children of the United States. Children are a launching point for who finally becomes old. The better start they get, the better they will be at the end point. Nevertheless, older people die, and they die from something, whether it's a disease that has a name right now or a general failing of physiological reserve. Unless we become really much more capable than we are right now in preventing both the onset of disease and also preventing frailty and disability, we have a lot of people who need help at the older end of the spectrum.

And I should rescind one comment about older people not needing money for access to services and opportunities. It's not necessarily that they need a lot. Older people need both information and maybe a little bit of financial assistance to get things like home health care, simply someone to clean up the house for them when they can no longer do it very well or do it at all. That's not a high-cost item but it can "make or break" the quality of daily living for that individual.

What gerontologists now often talk about in terms of disability is really a span of services, a wide range of options for older people, who can call upon services as they need them.

Mr. **Harrell**. Mr. Chairman, another thought I was having about the other end of the spectrum, I was very struck about a year ago by reading a paper written or a speech delivered by the Minister of Health for Canada, Jake Epps, who has kind of charted health promotion and disease prevention priorities for the Nation of Canada. I find Canada often has thoughts expressed that I wish we had expressed first, but we seem to catch up. And he's saying basically what you're saying, that one of our major goals must be really helping those people with chronic conditions live as healthy as possible, have as healthy lives as they possibly can, and he's proposed something very close to what you suggested, Mr. Chairman, a system or a Government policy which gives support to the notion of mutual care, not necessarily professional care but mutual care, which is community-based, neighborhood-based, family-based, so that the professional services aren't the only recourse for someone to take when faced with a disability that they will have to live with and can live with it in a functional way, in a way that allows them to have a modicum of health.

CARE OF THE OLDEST OLD

Mr. **Feldman**. Mr. Chairman, I should like to take this opportunity to expand on one issue that has arisen. At last week's hearing there was an emphasis on the possibility of constraining medical care expenditures through various types of caps that have been used in various other countries. I believe Mr. Reinhardt, Mr. Evans, and Ms. Davis all discussed that. I just wanted to clarify some issues about the United States that I don't think are necessarily widely known.

Mr. Vaupel today mentioned that it is not totally clear what death rates are in the oldest age groups. They are subject to considerable error. But as far as we can tell, death rates in the United States of persons age 80 or 85 are about the lowest in the world and they are lower in fact than the death rate in those age groups in Japan, Sweden—at least that's what we believe, although, as Mr. Vaupel pointed out, it may be that our statistics are in error.

Now in part the favorable death rates at the older ages may be due to the fact that the frail population has died off, but in part it may be due to the fact that our system is quite attentive to the medical problems of those in the older age groups. At the same time as having the lowest death rates, we have by far the highest utilization of medical care at older ages. In other words, in many of the European countries conditions are not treated in the older population that we do treat and we treat rather aggressively.

Thus, our extremely high expenditures, the 11 percent of gross national product, is a consequence in part of inefficiencies but also in part a consequence of our different priority for treatment of older persons.

Representative **Scheuer**. Actually they have health rationing around the world and we don't. In England, if you're over 55, you don't get kidney dialysis unless you pay for it yourself. You do not get it on their national health system. That would be considered absolutely cruel and horrific and horrendous here.

Mr. **Feldman**. I should like to point out that the rates of utilization of acute hospital and physician services by our people in those older age groups is much higher than in most other countries. Recently, the rates have been growing in many of the other countries. I think that some countries may be catching up with us. We are drawing closer together in part because we are having sharp reductions in the use of care in the older age group and they are having considerable increases.

Representative **Scheuer**. We are having radical reductions in the use of care? I hadn't heard that before.

Mr. **Feldman**. Because of prospective payment, and perhaps other factors, there have been considerable reductions in both admission rates and length of stay in the older age group. The prospective payment system has been quite effective. So hospital use rates in the United States and the other countries are growing closer but we still have higher use of services in the older age groups than almost any other country.

IMPACT OF AIDS

Representative **Scheuer**. Dr. Heagarty, tell us about the impact of AIDS on the health care delivery system in New York City, especially its impact on infants and kids.

Dr. **Heagarty**. If you have an underfinanced and rather embattled public health system with a fixed amount of money coming out of local tax levy funds and you suddenly add to it without additional funding a catastrophic illness of high intensity, you have a system that becomes even more fragile. I think that what has happened in New York and in Newark and in Miami and to a degree in San Francisco with a different population, is that the public general hospital systems of those areas are being taxed to the point of real potential catastrophe.

Now I don't mean to be—to use my usual Irish hyperbole—but a year or two ago at one of my daily conferences with the young doctors they said to me, "The pharmacy says we've run out of Robitussen." Robitussen is a cough syrup. It's a placebo. But this was February and you can't practice pediatrics without Robitussen. Anybody who has a child knows that you have to have Robitussen. So in my usual understated fashion I went down to the chief pharmacist and said, "What do you mean we don't have Robitussen?" She said, "That's right. We don't have Robitussen because last week I had to buy $165,000 worth of Ceflasporins, an expensive form of antibiotics, for the AIDS patients and we have a cash-flow problem." These people talk funny.

I think that the introduction of this epidemic—which I must say public policy people at both the State, local, and Federal levels have used massive denial about—is imperiling in serious ways our ability not only to provide health care for those patients with AIDS who are poor, but it's putting in peril the entire system. I think it's a crashing emergency and I'm waiting for somebody else besides me to see that the sky is falling and stop using medical McGooism.

Representative **SCHEUER**. That's a very good closing line—medical McGooism. Mr. Harrell, do you have anything to add?

Mr. **HARRELL**. No.

POOR FAMILY PLANNING

Representative **SCHEUER**. Why do you think we're falling behind on family planning—another example of medical McGooism—in terms of the implications to society of not giving a 13-year-old, 14-year-old, or 15-year-old sexually active girl the ability to control her fertility?

Mr. **HARRELL**. I think you just said it. As a career civil servant, if I started saying it, I might have trouble when I get back to the office, but there are all kinds of reasons I suspect of political will that are behind our failure in this area. It's not just Federal political will, but it's political will.

Representative **SCHEUER**. Well, do you feel that the position of family planning of the Catholic Church, let's say in Harlem, is an important factor in deterring young girls from seeking medical assistance in controlling their fertility?

Dr. **HEAGARTY**. No, I don't.

Representative **SCHEUER**. What is the reason they don't access the system?

Dr. **HEAGARTY**. In terms of family planning?

Representative **SCHEUER**. Yes.

Dr. **HEAGARTY**. I think there are a whole series of social norms that——

Representative **SCHEUER**. Or in terms of prenatal care?

Dr. **HEAGARTY**. I think there are a whole series of social norms that vary from population to population which I think is almost impossible to generalize about. You have to look at each population and each group individually to tease out what's going on.

In Harlem, I think the Roman Catholic Church has almost no impact at all, but there are a whole series of social norms around pregnancy and around prenatal care. We have taught the poor to use medical care on a crisis basis because we have set up a system that only can respond to them in that way.

Representative **SCHEUER**. Wouldn't you say that when a young girl becomes pregnant, that's an extremely important event in terms of her life, in terms of the child's prospective life, in terms of the impact on society, and couldn't that easily be characterized as a crisis situation in which if ever she would want to access the system this was the time?

Dr. **HEAGARTY**. Well, sure, and if I think about the statistics in Harlem, most of the very young teenagers do get into prenatal care because the family rallies around. But it took 25 years to convince the Nation that they shouldn't smoke.

SMOKING

Representative **SCHEUER**. The Nation isn't convinced yet. It costs $65 billion a year, our smoking bill.

Dr. **Heagarty**. Right, but he tells me that we're doing better than we did.

Representative **Scheuer**. Then why is smoking increasing in only one category in our national life—young teenage girls, not even boys?

Dr. **Heagarty**. The point, Congressman Scheuer, I'm trying to make is to establish a norm which says for any social grouping this is a good that you must seek, requires time and considerable effort. We have put time and considerable effort into the issue of smoking, I think because it crosses social classes.

Representative **Scheuer**. Because it what?

Dr. **Heagarty**. I think because the concern about smoking and its use crosses social classes.

Representative **Scheuer**. It does indeed. Smoking is very rapidly in our country becoming a disease of the poor and of people who are not in the information loop. The old story of the smoke-filled room for politicians, that's part of history.

Dr. **Heagarty**. You haven't been in one for years.

Representative **Scheuer**. No; they don't exist anymore. People who have been elected to public office and people who have enough leisure time so that they can afford to be a politican, they're taking care of their health. They don't smoke and they don't want to be with a lot of other people who do smoke.

One of the interesting things about the Northwest Airlines decision to cut out all smoking even on their transcontinental flights was the poll or a series of polls that they took during the year that they studied that matter whereby they found that smokers, as well as nonsmokers, wanted to prohibit smoking on the flights because smokers wanted to choose the time and place of their smoking and they, just as much as a nonsmoker, didn't want to sit next to a person who was blowing cigarette smoke in their faces for 3, 4, or 5 hours.

Dr. **Heagarty**. My only point is that to get to that point it took 28 years. I think the first Surgeon General's report came out in 1960 or thereabout. That took a long time to establish that social norm and considerable amount of effort on the part of the Public Health Service principally. We have not put that sort of effort, carefully targeted and carefully thought out, to low-income groups around a series of health care issues which are important.

IMPORTANT HEALTH CARE ISSUES

Representative **Scheuer**. Tick off those issues if you would.

Dr. **Heagarty**. Well, pregnancy is certainly one of them. AIDS—I have real problems because I'm not sure we can control this epidemic because I don't think we can move quickly enough to change behavior quickly enough to stop the spread of this virus.

Representative **Scheuer**. Well, among the homosexual community, which is to a considerable extent middle class, there's been a radical change in behavior in the last few years, has there not? The bath houses have closed down due to lack of patronage and homosexuals have become frightened about their survival.

Dr. **Heagarty**. Well, they should.

Representative **Scheuer**. But probably the lower income, the lower education status intravenous drug users haven't changed to anywhere near that extent.

Dr. **Heagarty**. That's right.

Representative **Scheuer**. Of course, a major problem in society is how do we reach them, how do we beg, borrow, plead, cajole, whatnot—how do we get them to access health care?

Dr. **Heagarty**. Well, we might start by trying.

Representative **Scheuer**. What would we be doing if we started to try?

Dr. **Heagarty**. Well, the first thing we would do is to provide health care for those who already have the disease and attempt to influence those who already have the disease to control their behavior by establishing some sort of relationship with them. The only Federal money that has come in for pediatrics for AIDS in this Nation is about $4.4 million that was just laid on the table recently by the Public Health Service for the entire Nation. That is not responding to this crisis.

Representative **Scheuer**. $4.4 million to address the problem of pediatric AIDS?

Dr. **Heagarty**. Nationally.

Representative **Scheuer**. How do we address the problem of pediatric AIDS?

Dr. **Heagarty**. Well, we begin by providing health care, a systematic, comprehensive pattern of health care which includes both inpatient and outpatient and respite care—residential home placement when necessary for this group of children. We also then engage the mothers of these children, all of whom are infected, in a relationship with the health care delivery system that is personal and individualized in an attempt to help them prevent themselves from getting pregnant again. And we try to take care of them as they get sick and die, and then we go into the community and provide a systematic culturally sensitive health education system which tells people about the dangers from this virus.

Representative **Scheuer**. I'm embarrassed asking you these seemingly ignorant questions. What is a culturally sensitive education system for AIDS mothers?

Dr. **Heagarty**. Well, it means that one would have to—first of all, the most obvious thing is that if you're going to try and reach the patients in the south Bronx, you do it in Spanish.

Representative **Scheuer**. That is obvious.

Dr. **Heagarty**. It means, as well, that you write your literature and you portray your literature and the people talking to the patients who are familiar with and comfortable with and understand the population in which they are trying to convey health education.

Representative **Scheuer**. That for starters.

Dr. **Heagarty**. For starters.

Representative **Scheuer**. What do you think we ought to be doing, Mr. Harrell? You were the one who first told us we had failed to reach our family planning goals. What do you think we should be doing?

Mr. **Harrell**. Well, again, from this office as a cheerleader, I think one thing we'd like to see is health education seen as one of the basics, like reading, writing, and arithmetic, that starts at the beginning and not only talk about how to prevent, but also what to expect, and how to access health services so when a girl gets to the age of 13 or 14 she has some notion about what is possible in terms of family planning and so forth. This becomes a very difficult issue.

Representative **Scheuer**. It would be nice if we could also let her know that abortion was an option, if she has a child who is statistically likely to have AIDS.

Dr. **Heagarty**. I think you would find, leaving aside where the money is coming from and so on, obstetricians and so on dealing with patients who are infected with AIDS virus, I'm sure offer them the option of abortion as well as other options.

Representative **Scheuer**. How much of a statistical likelihood is there that the infant of an AIDS infected mother will also be infected with AIDS?

Dr. **Heagarty**. The current data, which are incomplete, suggest a percentage of something in the range of 30 to 50 percent.

Representative **Scheuer**. Is there any way of testing that infant during gestation before it's born?

Dr. **Heagarty**. No.

HEALTH PROMOTION AND EDUCATION

Representative **Scheuer**. Well, Ms. Verbrugge, if we're talking about this 20- to 30-year-education effort, that would be very relevant, wouldn't it, to helping the senior citizens cope with their problems of disability to help them cope with the problem of disease, the relentless onset of the deteriorating conditions that they are subject to, to help them know in advance that they have to create this home environment that you talked about?

Ms. **Verbrugge**. Yes, though I must confess no optimism about the role of education in primary prevention. It usually fails to prevent a disease, it figures in after the disease arrives.

Representative **Scheuer**. How much advance notice does an elderly person have that he or she is falling prey to one of these conditions?

Ms. **Verbrugge**. Not much; or even middle-aged persons. The literature indicates that people adapt and slowly to the diseases as it changes its stage. You don't really want to anticipate the worst. So people's armamentarium of help and aids change with the disease but not in advance.

DISABILITY CARE

I would like to have a parting statement about the elderly again—we're doing age "hop-scotching" here. But much of the reason disability hasn't been a prominent focus of discussion here or in many other places is that disability gets taken care of by family. When they first need assistance, people turn to their near and dear, and the bulk of care-giving in the United States for anyone, young or old, who is disabled occurs through kin. For an older person, this is often a daughter. The emotional strain on family care-givers is tremendous. And if the Government has any duty or responsibility toward older people, it's to help diversify opportunities, not only for the individual with the chronic disease, but also the care-giver who's not being paid and whose own life has become disrupted by the needs of someone they will help to the very end because no one else is there to do so.

Representative SCHEUER. That's generally a family member?

Ms. VERBRUGGE. Very much so.

Representative SCHEUER. Does anybody else have any futher comment?

Well, Dr. Heagarty, I see from your expression that you don't feel we've come up with the ultimate answers to the questions you've posed to us.

Dr. HEAGARTY. I'm sure upon mature reflection you will have the answers.

HEALTH PROMOTION AND EDUCATION

Representative SCHEUER. Do any of you have a parting shot on how we can promote primary health care, including preventive health care, in a far more broad gauged and effective and outreaching way than we're doing at present?

Dr. HEAGARTY. Well, it's the old cliche, I suppose. We fund it. You pay for it. You may have to rob the dialysis unit or the high tech, but if you accept that 11 percent of the GNP is too much, I don't know how much is the right figure since this is all macroeconomics and I don't understand—but if we are unwilling to ration, we're probably never going to fund it, but you have to pay for it. And the incentives in the system at the moment are not toward either the respite home care system that would be sensible for the maintenance of the elderly or for giving measles vaccine to poor kids to make sure we don't have measles epidemics again because that's not where our incentives are.

Mr. HARRELL. It would really be nice if we could come up with a nice equation that proved that primary prevention will equal cost savings in such proportions that no one could not be convinced not to do it.

Representative SCHEUER. It would be nice.

Mr. HARRELL. But we can't do that.

Representative SCHEUER. All the statistics I've read indicate that primary health care and especially health education is very expensive on a cost-benefit basis. I don't understand why it should be. It seems patently obvious that it should be the most cost-beneficial approach to health care, but apparently it's very expensive in terms of what it accomplishes. It may be.

Mr. HARRELL. Well, we're not very good at measuring what it accomplishes. That's one of the problems there. But in any case, you're talking about doing it for the population as a whole instead of targeting individuals after they show symptoms or after they have become sick, and it is an expensive proposition. That's a crass way to put it, but after all, it's cheaper to be dead. That's why you have to take the argument to another plane, it seems to me.

Representative SCHEUER. Well, Americans have shown us that they can change their behavior when they come to understand that their lives are threatened. They've done it with alcohol. There has been a marked reduction in drunken driving arrests. There has been a marked reduction in smoking in this country, except in that one population group of young teenage girls. There have been phenomenal changes in diet over the last 10 or 15 years with a reduction of high fat, high salt, high sugar foods. And if you don't believe me, you can ask the dairy industry, you can ask the meat industry or you can ask the poultry industry. People are eating less meat, less eggs, less high cholesterol products by far than they used to. And even when it comes to sex, irresponsible serial sex that was the thing during the sexual revolution has now given way to monogamous sexual relationships even among teenagers and young people who aren't married, but they have been scared by AIDS and they have substantially changed their sexual behavior.

So I guess there is hope that when people are really brought up sharp and presented with a life-threatening choice that they have to make, or a life-threatening condition which they can only avoid by major changes in behavior, they will opt for that. They will make major changes in behavior. Maybe that's our hope. I suppose this drumbeat of information that people have received about salt, about high cholesterol foods, about the benefits of exercise, about the harm of smoking, about the dangers of driving while you're drunk—all of this whole great big complicated communications system that we have in this country, public and private, formal and informal, in some fuzzy wondrous way it works. And people have made major changes in their behavior and I guess we ought to support more of the same and more outreach such as designing an information loop for low-income people with not much education. The same people who are at high risk for AIDS through intravenous drug risks are also those who are at high risk of a heart attack because they haven't had their blood pressure checked, and at high risk for heart attack because they haven't checked their cholesterol.

Education is I guess a major determinant of our health and also poverty and absence of poverty are major determinants of our health, as I'm sure Dr. Heagarty would testify. Generally, well-to-do people are able both to know what has to be done to enhance their health prospects and have the wherewithal to do it far more effectively than poor people. It's not just knowledge, it's power to alter your environment, a willingness to change behavior and alter your environment.

Well, this has been a very, very provocative and thoughtful and stimulating hearing and I thank you all. You all have been very patient. We've gone way, way over our time and that's a tribute to how valuable we thought your testimony was. Thank you very, very much.

[Whereupon, at 12:45 p.m., the subcommittee adjourned, subject to the call of the Chair.]

THE FUTURE OF HEALTH CARE IN AMERICA

TUESDAY, MAY 17, 1988

Congress of the United States,
Subcommittee on Education and Health
of the Joint Economic Committee,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:40 a.m., in room 2325, Rayburn House Office Building, Hon. James H. Scheuer (chairman of the subcommittee) presiding.

Present: Representative Scheuer.

Also present: David Podoff and Dayna Hutchings, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE SCHEUER, CHAIRMAN

Representative Scheuer. Good morning. Today is the third day in our series of hearings on "The Future of Health Care in America" and we are going to devote today to evaluating payment systems for physicians. The day after tomorrow on Thursday we will have a related hearing on payment methods for hospitals.

During our first 2 days of hearings we got a clearer idea of some of the dilemmas in which we find ourselves with respect to the health care system in the late 1980's.

On the one hand, many Americans have access to the best medical care available anywhere in the world. As a result, we are enjoying longer and, often, more productive lives.

On the other hand, while growth in spending on health care continues to advance at a rapid pace, serious problems continue to plague our health care system:

Our infant mortality rate ranks 20th among the 22 OECD nations.

Approximately 37 million Americans lack basic health insurance coverage.

Very few American families have adequate long-term care insurance coverage.

Now our task would be easy if all we needed to do was spend more money on health care. But that isn't the answer. We are already spending on a per capita basis far more than any other country in the world and we're spending more as a percentage of GNP, and there's very little evidence that our health outputs, our health results, are that superior. As a matter of fact, they demonstrably are not.

In 1965, we spent 6 percent of our GNP on health care. Currently, we're spending close to 12 percent and unless we slow down the rate of increase or eliminate it entirely, that figure will rise to 15 percent of GNP by the year 2000.

Now as health care costs continue to climb up, not only arithmetically but as a percentage of GNP—every year that figure creeps up inexorably—we have to understand that there are other competing needs in America. We have a society where we are drastically underspending on education. We can't compare in education output to other industrialized nations across the length and breadth of Western Europe, Japan, Australia, New Zealand, and Canada.

We have to commit adequate resources to building a first rate education system for our kids, assuring access from preschool through college through the university levels as we did after World War II in the greatest education experiment of all times in terms of access. I went to law school on the GI bill of rights. Our country may be suffering from it, but many other millions of Americans have made remarkable contributions.

We have to attack the problem of an incompetent and to a frighteningly large extent illiterate work force. Our workers are not as good as workers around the world. They ought to be. They can be. They should be and perhaps some day they will be, but right now they are not. And we have a rate of anywhere from 20 to 25 percent functional illiteracy in our work force. That means people who may be able to read and write their names with great difficulty but they can't use reading and writing and counting as everyday tools of life. What does that mean for our country?

There are competing needs. We must rebuild our infrastructure of roads, bridges, highways, and sewers. We must make some kind of decent housing available to every American family. We can't continue indefinitely this inexorable creeping up of the percentage of our gross national product that we spend on health care.

There are a lot of other unmet needs in American society, so it behooves those of us who are interested in our health care system to do some hard thinking about how we can make our system more productive and more cost effective.

The goals of these hearings is to develop a blueprint for change that will allow us to provide universal access to health care and to improve health status without increasing the cost.

And it is my hope that ultimately this blueprint that we will develop along with other Members of the House and Senate and the thinking that they have done will become the basis of a new national health care policy which we so sorely lack at the present time.

Perhaps the one most fundamental change we could make is to reorient a health care system that concentrates on sick care to one that concentrates on health care.

The key to reorienting the health care system toward wellness is changing the attitude of consumers and providers. In part, these attitudes are shaped by the incentives provided by the reimbursement methods we now use to pay our doctors and hospitals.

Today's hearing will evaluate alternative payment methods for physicians. As I mentioned, in Thursday's hearing we will address payment methods for hospitals. Today we're thinking about how we compensate physicians, what are alternative payment methods for physicians in terms of incentives that could be provided for patients to seek and doctors to provide, cost-effective preventive health care.

What are we doing wrong in our reimbursement systems and how could they be improved? How could they be recast, remolded, to provide more cost-effective health care for the American people?

We will now go to our very distinguished panel with experts who have diverse backgrounds and experience in the field of health care.

Mr. Lynn Etheredge is a consultant with the Consolidated Consulting Group, who deals primarily with health care financing, government health and income securities policies in the growing elderly population.

Mr. Paul Ginsburg is executive director of the Physician Payment Review Commission, created 2 years ago to advise the Congress on medicare payment issues. Mr. Ginsburg will discuss the effects of current and alternative payment methods on the provision of physician services both now and in the future.

Dr. Painter is an internist from Houston, TX, and was reelected to the AMA Board of Trustees in June of last year. He also will discuss the effects of current and alternative payment methods.

Dr. ~~Dan~~ Dragalin is vice president of group medical services, Prudential Insurance Co., and he's had previous health positions as assistant medical director of Southeastern Health Service, Prudential, and will address the same issue.

Mr. Webber is executive vice president of the American Medical Peer Review Association. You read some bad news in the Times this morning, Mr. Webber. We all did. Perhaps you can talk about that issue while you're testifying. Mr. Webber will discuss the effects of alternative payment methods on the quality of care.

All right. We have a large panel. Why don't each of you take about 7 or 8 minutes and speak to us informally, preferably not reading and assume that we're all sitting in a big living room together, and then after you've finished I'm sure we will have some questions for you.

Mr. Etheredge, please begin.

STATEMENT OF LYNN ETHEREDGE, CONSULTANT, CONSOLIDATED CONSULTING GROUP

PHYSICIAN PAYMENT AND HEALTH CARE INFLATION

Mr. Etheredge. Thank you, Congressman Scheuer. In my prepared statement I address three major topics: The role of physician payment methods in health cost inflation; a brief history of our physician payment methods; and the pros and cons of four basic methods of paying physicians. With your permission, I'll just hit the high points of those topics.

Representative Scheuer. Very good.

Mr. Etheredge. National health expenditures for physicians are the second largest component of health costs: Over $92 billion in 1986, a 20-percent share of total spending. They have also been a leading element in health cost inflation. Over the 6 years 1980 to 1986, physician services spending grew at close to a 12-percent annual rate compared to 11 percent for all health services.

Representative SCHEUER. And the Consumer Price Index over that period of time went up 3 or 4 percent? So physicians' total compensation went up approximately three times the Consumer Price Index, three times as fast as the Consumer Price Index, more or less.

Mr. ETHEREDGE. Yes. And physician payment methods are even more important in health cost inflation than those numbers. The reason is the physician controls 60 to 80 percent of total health care spending—tests, hospital admissions, lengths of stay, procedures and treatments. So if a physician payment system has biases, as our system does, for unnecessary institutional care, excessive tests and unneeded procedures, then the physician payment method can produce a lot more inflation than just physician service payments alone.

HISTORY OF PHYSICIAN PAYMENT

Let's look briefly at how we got to the system that we have. It is a fee-for-service system primarily, which is what most countries of the world use, but the way it has developed in this country has been unique and gives us a special set of problems.

Representative SCHEUER. Excuse me. You say most countries in the world. Most developed countries in the world have some kind of national health insurance or national health programs. Do they use a fee-for-service payment system in most of these national health programs?

Mr. ETHEREDGE. Yes, sir, they do, but they set those fees through a fee schedule that is usually set by the Government or set after negotiations and discussions with physicians. What happened in this country is that we used to use that system—where the payers decide how much is going to be paid—until about 1965. Then, when medicare was enacted, medicare adopted a different system as a political compromise: usual, customary, and reasonable charges. Medicare basically paid what physicians billed as long as it was not higher than what they usually charged or not out of line with what went on in the community.

The problem is that the other insurance companies, looking to what Government had done, adopted that method also. So we have had for the last 20 years a system in which we pay most of our physicians by insurance—72 percent of their income comes from insurance—and in which the insurers, Government and private insurance have largely paid whatever physicians have charged and have increased those payment rates each year to keep pace with physicians' fees.

Over the years medicare and other payers have put more screens in payment reviews, but that is still our basic method. It has been a system that has obviously allowed a good bit of inflation.

I think we have two lessons here. First, we have a unique system. Other countries don't do it the way we do it. They use fee schedules. Second, the Federal Government has had a big role in terms of changes in our payment system. That's why the work of the Physician Payment Review Commission is going to be very important. It could be a signal to private insurers that they need to reconsider the system they adopted based on Government policy.

FOUR METHODS OF PHYSICIAN PAYMENT

Let's look briefly at four basic systems of paying for care. All four of these are used in the United States. They are also used internationally but in different mixes. The four are: fee-for-service, which is what we use mostly in this country; a salary or time basis; capitation; and payment for an episode of care.

Fee-for-service is the one that we use most, particularly for the two-thirds of the physicians who are in office practice. It's a flexible system. It allows for a lot of complexity. It allows us to pay physicians on the basis of how many services they perform in their work effort. It is also a very complex system as I've outlined in my prepared statement.

The major disadvantage of fee-for-service in this country and in other countries is it tends to produce a runaway in physician volume increases because that is what it pays for. It pays more for more volume of services. In a way that's fair. But especially if the fees are out of line and are paying too much for procedures, so there is too much profit in some of them, there is a tendency for volume to explode. We have seen some of that just in the last 2 years in medicare after Congress put in the DRG system and froze physicians' fees. The volume of lab services went up 182 percent in 2 years. Medicare enrollees went up 4 percent, lab tests went up 182 percent. Outpatient hospital bills went up 68 percent. So when you push down on one part of the system, such as the hospital side, fee-for-service allows for an expansion of volume on the physician and outpatient side.

So that is the key problem with fee-for-service—runaway volume of medical care.

The second physician payment system is salary or time based. About a third of the physicians in this country are paid on the basis of salary or time. They are employed by hospitals. They are medical school faculty, and others.

Representative SCHEUER. HMO's?

Mr. ETHEREDGE. HMO's, exactly. This system is used a lot within the health sector. When physicians buy from each other, hospitals buy from physicians, they tend to pay each other on the basis of time. For example, within group practices, 52 percent of physicians, according to AMA studies, are paid primarily on the basis of time or salary rather than fee-for-service. So this is getting to be very accepted within the medical community.

It is also a very simple method. If you think about our current system, with over 6,000 procedures that doctors can perform, you can compare it to a time basis. If physicians were paid in 5-minute increments you could have only 12 fees for up to an hour of time: a 5-minute procedure or 10-minute procedure or a 20-minute procedure. So this shows how complex our system is. We probably have 5,000 procedures that take less than an hour, and might be able to vastly simplify the system with a time-based approach. Time also seems like a fair way for many physicians to be paid, and that is why the Physician Payment Review Commission has decided that a resource-based fee schedule makes a lot of sense. The main element of a resource-based fee schedule is time. So time becomes a way to calibrate fee-for-service rates by using physicians' time as a major element in building fee schedules.

Let me mention two other systems briefly. One is capitation. This clearly has the advantage of putting a total limit on expenditures. It has the associated risks of underservice if the capitation amount is set wrong, but it has been the last resort that places like Canada and Germany have had to turn to when the volume of fee-for-service for medicine got too great. Quebec and Germany have gone to a capitated system where, if physicians raise volume too much, the fees are cut. That is basically what Congress is doing now with medicare part B.

Finally, fee-for-episode payments are now used only for some kinds of services, particularly surgical services.

Let me just summarize that overview, Mr. Chairman, by saying that three different physician payment systems are widely used in this country—fee-for-service, salary or time, and capitation. They are used in different mixes. Each of them has advantages. Each of them has disadvantages. You cannot say that one is automatically better or worse than others on every criteria. There is no uncontested argument for replacing the current system. But there are some strong arguments for reforms of fee-for-services payments, particularly those that remove the biases for unnecessary cost and promote unnecessary volume of services. Thank you.

[The prepared statement of Mr. Etheredge follows:]

PREPARED STATEMENT OF LYNN ETHEREDGE

PHYSICIAN PAYMENT METHODS

Mr. Chairman and Members of the Committee:

I appreciate the invitation to appear before you this morning to discuss physician payment methods.

My background includes serving as a Medicare and Medicaid program analyst with the Office of Management and Budget from 1971-76 and as director of its professional health staff from 1978-82. My subsequent research and consulting have been concerned primarily with physician payment and other health care financing issues. I am appearing today as an independent witness.

In the context of this Committee's series of hearings on the future of health care in America, it is useful to begin a discussion of physician payment issues by reviewing the role of physician payment methods in health care cost trends and how our current physician payment methods came to be what they are today.

Physician payment methods and health care costs

National expenditures for physicians services are the second largest component of health care costs. In 1986, physicians revenues were $92 billion, a 20% share of total national spending on personal care services, compared to 39% for hospitals. Over the 1980-86 period, national spending on physicians services grew 11.9% annually, compared to 10.7% for all personal health care expenditures. (USDHHS/PHS)

Physician payment methods are a more important influence on national health care expenditures than indicated by these numbers. By commonly-accepted estimates, physicians -- through their dominant role in hospital and nursing home admissions and lengths of stay, tests, procedures, treatments and prescriptions -- influence 60-80% of total health care spending. A physician payment system that contains biases, as research indicates is true of our current fee-for-service system, towards institutional care, excessive tests and unnecessary procedures thus may lead to higher health care inflation than is directly measured by rising spending for physicians' services alone.

The development of current physician payment methods

The most prevalent physician payment method in this country is to pay physicians on the basis of bills for individual services -- a fee-for-service system. This is also the most commonly used method in other nations. But the way in which this approach has evolved in America is unique and has resulted in a number of problems. Congress has recently started to consider these issues and has established the Physician Payment Review Commission (PhysPRC) to consider Medicare physician payment reforms.

Most fee-for-service payment systems are based on fee schedules that specify how much will be paid for each service. These fee schedules are determined by payers, e.g. insurance companies or government agencies, either alone or after negotiations with physicians' representatives. This was the system that prevailed in the United States until the Medicare program's enactment in 1965. (Delbanco, et. al.)

The Medicare program was enacted after years of debate and political opposition, particularly from physicians' groups. To limit government's potential influence over the health care system, the final legislation required that Medicare operate as an insurance program and simply reimburse for hospital costs and physicians charges rather than purchase services. (Marmor) The Blue Cross hospital cost reimbursement methods were adopted for hospital payment and insurance companies were designated to be Medicare's administrative agents. For physician services, a national government-set fee schedule would have been extremely controversial. Instead, Medicare adopted an approach then being used by some Blue Shield Plans, called the "usual, customary and reasonable" (UCR) payment method.

The UCR payment method is simple in concept. Physicians are paid the amount they bill for a service, so long as this does not exceed their "usual" charge for the service or the "customary" charges by other physicians in the area. (Medicare's current system, a UCR system with added fee screens and limits, is now usually called the "customary, prevailing and reasonable" (CPR) method). This payment policy was intended to keep Medicare's payment rates in line with other payers' rates. But its usefulness in cost containment depended very much on their being effective payment restraints on physicians fee by these other insurance payers.

What happened in the United States, after Medicare's enactment, was that private insurance companies generally abandoned physician fee schedules to adopt variants of Medicare's UCR/CPR payment method. They did so, as I have read the record, partly because Medicare's use of this approach gave it a national imprimatur, and it avoided the problems of each insurer having to negotiate its own physician fee schedule. Some variant of the UCR/CPR method for fee-setting is now widely used by Medicare and private insurance companies.

A national physician payment system that: (1)relies very heavily on insurance reimbursement for physicians services (72% of physicians services are paid by insurance, 18% is paid out-of-pocket); and, (2)in which the insurers exercise little cost restraint, generally pay whatever physicians charge and automatically raise their payment rates each year to keep pace with physicians fees (UCR/CPR) -- is susceptible to runaway health costs inflation. This problem has characterized the American system. As a result, physicians fees for many services (particularly heavily-insured services) are now out-of-line both in comparison with the physicians time and other costs of providing these services and in comparison with other services such as office-based primary care visits.

The need for reform in our nation's physician payment methods to correct these problems has been noted for many years. The Nixon, Ford and Carter administrations, as part of their national health insurance legislation, proposed to replace government and private insurers' UCR/CPR-related payment methods with government-determined fee schedules. These general measures were not enacted. Nevertheless, Congress, in reforms over the past several years and in establishing PhysPRC, has started a reform process for the Medicare program that accounts for about 20% of national physician expenditures.

This historical sketch offers two major points we should keep in mind for future (re)consideration of physician payment methods:

--First, our prevailing physician payment method (UCR/CPR) is a unique and "made in America" system. It was not sanctified by historical precedent, derived from economic theory, or based on other nations' experiences. It arose primarily from political concessions to physicians made twenty years ago so that the Medicare program could be enacted.

--Second, the federal government's past decisions about Medicare's physician payment methods were a strong influence on private insurance practices. As a result, private payers' problems now parallel government's concerns. The Congressional debate about Medicare payment reform, and the Physician Payment Review Commission's recommendations, thus will have potentially broad implications for dealing with our nation's health care cost inflation problem.

What are the major payment options for physicians services?

There are four basic methods of paying physicians now in use: fee-for-service; salary (time); capitation; and fee-for-episode of care. Fee-for-service is most usual in the American system, but each of these methods is employed in parts of our health care system. Internationally, the variance in payment methods is even wider. The British health system, for example, uses capitation and salary-based payment almost exclusively, and the German health system has had an overall expenditure cap for physicians services. In reviewing each of these methods, I will highlight major considerations that argue for and against their use.

Fee-for-service

The fee-for-service method is the most frequently used approach for paying physicians services. It offers the advantages of a flexible, differentiated system that can accomodate a high degree of complexity and rapid change in medical care practices. It also can relate a physicians' income quite directly to work effort and business acumen -- the more patients seen, the more services billed, and the more highly priced these individual services, the greater a physician's income. It is of particular importance for office-based physicians (2/3 of active physicians). The fact that this system is already so widely used and acceptable to physicians is a further argument for modifying rather than replacing it.

One disadvantage of a fee-for-service system is that it can become complex and almost incomprehensible to many patients and physicians. This is a particularly troublesome problem with today's Medicare's CPR payment method that calculates separate fee profiles for each service provided by most of the nation's 325,000 office-based physician. The AMA's Current Procedures Terminology (CPT) listed 2,084 separate codes in 1966, by 1978 6,132 separate codes were listed. When different specialty and location codes and other separate circumstances are reflected, a Medicare carrier can have several times this number of fee categories. A CPR payment method involves keeping a full profile for each individual physician, and for all physicians in an area, for each service, as well as reflecting legislative provisions such as separate prevailing charge adjustments for participating and non-participating physicians and over-priced procedure reductions. Medicare now must review and pay bills for over 1/2 billion Part B services annually.

The major disadvantage of fee-for-service reimbursement is its tendency to induce rapid increases in the volume of physicians' services, which is what it rewards. This is now Medicare's major spending problem; even with severely restrained fee increases, Medicare's Part B expenses are still rising at double-digit rates.

The problem is most acute where fees are set badly and there are unusually large opportunities for profit by raising volume.

There are many examples, in the U.S. and elsewhere, of service volume increases in fee-for-service systems that seem economically-motivated. To take a recent instance, following the enactment of Medicare's DRG hospital limits and physician fee freeze, health care providers increased the volume of Part B laboratory bills by 182% (from 11 million to 27 milllion bills) and these service revenues by 166% (from $253 million to $672 million) over just the 1984-86 period; the volume of Part B outpatient hospital bills increased by 68% and these revenues by 112% (from $2.7 billion to $5.6 billion) over the same two year period. (DHHS/SSA) For comparison, the number of Medicare enrollees rose by only 4%.

There are a number of ideas now being considered for reform of our fee-for-service payment methods to deal with these and other issues in a manner that is fair to physicians, patients and taxpayers. I will not go into these issues here. They clearly can be resolved if there is the good will and determination to do so. Such matters have been dealt with successfully by most nations, many states (for their Medicaid programs) and private insurers (pre-Medicare). We have an able national commission (PhysPRC) now engaged in this task.

One further issue about fee-for-service reforms should be part of this Committee's record. It involves a misunderstanding of health sector economics. In the anti-trust context, one frequently hears an argument that developing fee schedules for negotiations between payers and physicians (rather than bargaining over individual fees) is an "anti-competitive" measure. The Reagan administration decided not to initiate Medicare fee schedule development, partly for this reason. In my view, this argument is wrong because of the incredible complexity of physician service fees that was briefly sketched above for the Medicare program. In fact, I can think of no other payment reform that could better lead toward a competitive physician service market than for payers and physicians to center their negotiations around fee schedules. The current UCR/CPR system, in which every physician has a separate fee for each service, is an unwieldy and inefficient basis for reaching physician-payer price agreements. An organization putting together a PPO, for example, faces difficult physician negotiations if it must deal with each physician's individual charges for each service. In contrast, negotiations based around the level and major features of fee schedules could be a much more efficient and effective basis for carrying on purchaser-provider negotiations and strengthening competitive market forces.

--Salary (time-based)

The second most common method for paying physicians in the U.S. is on the basis of the time spent in providing their professional services, e.g. salary. This is also the most common way in which other independent professional services are paid, e.g legal services.

A precise gauge for use of this payment method is difficult to obtain, but broad estimates are possible. It seems likely that salaries were the major payment method for about 165,000 physicians, about 1/3 of the nation's 490,000 active physicians, in 1985. This group includes physicians primarily in hospital-based practice (101,000 full-time hospital staff, residents and interns), private physicians in teaching, administration and other duties (44,000) and federally-employed physicians (20,000 physicians). (DHHS/PHS)

The use of time-based payment methods has also spread widely within the health care sector. According to AMA studies published in 1983, income distributions within group practices (which have replaced solo practice as the dominant practice organization) were based primarily on salary for 52% of physicians, compared to 45% of physicians for whom profits were distributed by fee-for-service or percentage-of-billings arrangements. In hospital-physician contracts, which involve about 25% of physicians, a reported 59% of the arrangements were based on a salary/time payment compared to 33% based on fee-for-service. (U.S. Senate Aging Committee)

A major advantage of a time or salary based system is its simplicity compared to fee-for-service billings. It is useful to contrast a theoretical time-based fee system with the current fee-for-service payment systems on this dimension. By a reasonable estimate, probably 5,000 of the 6,000+ separate code procedures require less than an hour of a physician's professional time. For comparison, if physicians were paid simply on the basis of their time, in five minute increments, only 12 fees would be needed to cover the same amount of professional services now requiring 5,000 or so fees. Even if physicians were paid a separate fee for each one minute increment of time, a fee schedule with 60 fees would suffice for these services. Allowances could be made for time spent doing surgical procedures and/or weekend and evening work and the payment system would still be far simpler than the current one.

A second advantage of time-based payments is that they remove the fee-for-service system's incentives to multiply the volume of services. A physician is paid comparably for providing his or her best professional care, whether counselling, diagnostic testing or procedures, without being biased by financial incentives of the payment system. Such salary-based payments are clearly consistent with high quality medicine -- they are the basic payment arrangement among most medical schools for their teaching faculty.

The potential drawbacks of time-based payments are that they lack the service-incentives and productivity rewards of a fee-for-service system. If a physician is paid the same amount regardless of the number of services provided, he or she may provide too few services. Time-based measures also can be only part of the picture when a physician has other expenses of providing a service, e.g. equipment, that also need to be factored into a fair payment rate.

The potential attraction of using time-based measures for calibrating fee-for-service payment rates is now receiving attention by Professor Hsiao at Harvard, who is developing a "resource-based" fee schedule for the Medicare program. The major resource measure in developing these fee schedules will be physicians time. The Physician Payment Review Commission recently endorsed the concept of resource-based physician fee schedules.

--Capitation

A capitation method pays a physician, physician group or other organization a pre-determined amount for services to a defined population. In contrast to a fee-for-service system, the capitation approach controls total expenditures directly -- including volume increases. This approach also offers a higher degree of spending control than a salary-based system that removes the incentives for volume increases but still allows them to occur.

The capitation system's major liability is the other side of this coin -- the incentives for underservice (since a provider keeps more profit the fewer services he or she provides).

Capitation payment methods have been a major theme in the American medical care reform debate at least since prepaid group practices were favorably discussed by the Committee on the Costs of Medical Care in 1932. More recently, capitation methods have come to be associated with Health Maintenance Organizations (HMOs), that now enroll over 11% of the population, and similar entities, e.g. preferred provider organizations (PPOs).

Capitation payment methods can be applied at a global level, e.g. for an entire geographic area. Such overall caps have proved virtually the only available "last resort" where the volume of physicians services in a fee-for-service system is increasing at unacceptable rates. Such trends led Germany and Ontario, for example, to establish annual caps on total spending for physicians services and prompted Italy's capitation-based reforms. If total physicians' billings exceed the budgeted amounts in Germany and Ontario, physicians fees are reduced. In effect, Congress is now using a similar approach for the Medicare Part B expenses; if total outlays rise too quickly, fee restraints remain tight.

Capitation can also be used for groups of physicians and for individual physicians. These uses involve difficult problems of balancing fairness, incentives and risks on all sides. One key problem, for example, is establishing an equitable capitation amount, given the well-documented "favorable selection" enjoyed by HMOs and PPOs that result in their enrolling a disproportionate share of less expensive patients. A second problem, particularly applicable to individual physician capitation systems, is that physicians and patients need to be protected against the very large risks that an individual patient may require far more medical service than is covered by the capitation amount. In such instances, patients may be at serious risk of underservice and physicians at substantial personal risk of financial loss. Should a primary care physician's risk, for example, extend to personal liability for specialist and hospital care? Thus, such capitation arrangements frequently need to limit individual physicians liabilities, e.g. $1500/patient, in order to be acceptable.

Although capitation payments thus have a potential for being an effective cost control method, it is also important to note that this potential may not be realized. Consider that the U.S. has had, in a sense, a mostly capitation-based insurance system for years. Insurers, like Blue Shield, received a pre-set premium per employee, within which they had to manage expenses. But this payment method did not produce economies. What was missing was a commitment to cost restraints and the management infrastructure to realize them.

--Fee-for-episode

A fourth payment method is a fixed fee for a package of services. This method is now used in instances where normal service packages can be reasonably well-defined, e.g. cataract operations, obstetrical care. In such instances, integrated hospital-physician DRG payments also may be feasible. Surgical procedures seem particularly well-adapted to such packaging, but research by Janet Mitchell has shown that medical care services, even for patients within the same DRG, are highly variable.

The potential advantages of fee-per-episode payments is simplicity in billing and an improved purchaser ability to compete or "comparison shop" on the basis of price for a full service package. An integrated hospital/physician DRG payment could also promote development of better managed systems of care, since it would give hospitals and physicians more incentive to work together. But such a system could also place a patient at risk that physicians and hospitals, in working together to limit services and costs, could economize on services that he or she needs or wants. Cost containment through fee-for-episode packages could also result if global fees were established for conditions and/or treatments that were experiencing an unwarranted expansion in volume of services. In these instances, the global fee could help to restrain expenditure growth. Nevertheless, it may be mostly in such areas of non-stable service patterns that gaining agreement on service-package definition would prove most difficult.

Conclusion

In summary, Mr. Chairman, three of the above physician payment methods -- fee-for-service, salary(time), and capitation -- are all in general use and the fourth -- fee-for-episode-packages -- is frequently used for some services. Each of these methods has advantages and disadvantages. There is no unchallenged basis for saying that any single payment method is superior to all others. An immediate priority thus should be to improve these physician payment systems to make them work better. Specifically, the enormously complex and inflationary ways of setting fee-for-service rates are most in need of overhaul.

Thank you.

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Representative SCHEUER. Thank you very much, Mr. Etheredge. Now we'll hear from Mr. Ginsburg.

STATEMENT OF PAUL B. GINSBURG, EXECUTIVE DIRECTOR, PHYSICIAN PAYMENT REVIEW COMMISSION

FEE SCHEDULES: RELATIVE VALUE SCALE

Mr. GINSBURG. My prepared statement outlines the directions for change that have been recommended by the Physician Payment Review Commission. I'll be discussing the commission's endorsement of a fee schedule to replace the medicare current method that Lynn Etheredge spelled out, and also some of the tools that it's discussing that deal directly with the rising volume of services.

In its 1987 report to Congress, the Physician Payment Review Commission endorsed a fee schedule for medicare. The result of years of the customary, prevailing, and reasonable charge system is a distorted pattern of medical payments for different medical services. This, in turn, has created undesirable incentives for physician decisions about what services to provide, where to practice, and how to specialize. The current system is also inordinately complex and difficult to manage.

During the past year, the commission has made considerable progress in designing a fee schedule that would correct many of the deficiencies in the existing payment system. In particular, it has defined the conceptual basis for setting relative payments for different physician services. This component of the fee schedule, commonly termed a relative value scale or an RVS, should be based primarily on the resource costs of providing services. These costs include physicians' own time and effort and their costs of practice, for example, rent, staff salaries, and malpractice insurance premiums.

A relative value scale based on resource costs would promote a more appropriate and efficient allocation of medical services and should generally be seen by physicians as more equitable. Today, a physician can make several times more per hour doing endoscopies than evaluating patient problems and developing treatment programs. Excessive payments for procedural services such as pacemaker insertion and cataract surgery may lead to overuse of these services, increasing public outlays without comparable improvements in care. The financial promises made in advertisements for much diagnostic testing equipment suggest that these services may be overpriced as well.

During the past year, the commission compared medicare relative values for selected services with those developed by other payers through negotiation, assessments of resource costs, or other non-charge-based methods. The results of these analyses have helped guide legislation to reduce payments for overvalued procedures, an interim step consistent with our recommendation for long-term reform.

Designing a sound, comprehensive RVS based on resource costs presents several technical problems. Many of these problems and some possible solutions are illuminated in a congressionally mandated project being undertaken at Harvard University by Dr. William Hsiao and his colleagues. This summer Dr. Hsiao will report on research to design an RVS for services and procedures in 18 specialties. The commission will analyze carefully the project's assumptions and methods, simulate its effects on physicians and beneficiaries, and conduct public hearings to solicit the reactions of medical, consumer, and other interested groups. It will also examine related research and consider the approaches taken by other payers in this country and elsewhere. If the commission finds inadequacies in the work done to date, it may sponsor further surveys and convene consensus panels to propose refinements.

My prepared statement also discusses the commission's work to date on geographic variation in charges, specialty differentials, procedure coding, and assignments.

Although a fee schedule is likely to encourage more appropriate choices among diagnostic and treatment options, it generally retains the incentives for overutilization that plague fee-for-service payment methods. The commission is considering strategies to deal with the volume problem directly.

CONTROLLING VOLUME OF SERVICES

Success in controlling volume will require the following. First, medicare beneficiaries and their physicians must be willing to forego services of little or no benefit. Second, all parties—physicians, beneficiaries, and others who influence medical choices—must have more usable and complete information about the effectiveness of alternative medical services. Third, there must be incentives to use such information to eliminate unnecessary or minimally beneficial care.

My prepared statement suggests some ideas for improvement in utilization review and also the use of practice guidelines and feedback to physicians.

The commission is also investigating a more global approach to the volume problem, that is expenditure targets. The idea would be to adjust updates in physician fees up or down on the basis of how total expenditures in a geographic area match a predetermined target. Physicians could collectively control the volume of services, they could achieve a full scheduled increase in fees, or more. Key questions about this kind of approach are how would individual physicians respond and how could the medical community support and encourage a constructive response?

ADDITIONAL CONSIDERATIONS IN PAYMENT REFORM

In addition to reform in fee-for-service payment, the commission wants to improve medicare's use of capitated payment. Capitated programs are attractive for their potential to contain costs and increase access for some beneficiaries.

My prepared statement summarizes the work the commission has done on assuring quality in health maintenance organizations, and refining the formulas the medicare uses to set payment rates.

In conclusion, your letter of invitation for this hearing accurately observes that the growing share of national resources devoted to health care has been accompanied by growing concerns about the quality, accessibility, and effectiveness of medical care services and delivery systems. Those concerns are joined by worries about the financial burdens created for beneficiaries, taxpayers, and others by steep and unrelenting increases in costs.

Quick and simple solutions to the problem of rising costs for physician services do not exist. Significant progress will require a variety of responses that are developed and pursued over a sustained period. The commission believes that the steps outlined in its recent report to Congress, many of which I have summarized in this statement, can make important contributions.

Nevertheless, there are important limitations to what medicare payment policy can accomplish. For example, medicare generally is not as big a factor in physician income as it is in hospital income, although some specialties do depend heavily on revenues from the program. This may limit the magnitude of change that medicare can achieve, particularly if private payers—insurers and large private employers—do not alter their payment schedules.

Other factors are outside the reach of payment methodology altogether. For one, continued increases in the supply of physicians will be a powerful force toward additional services, even if greater competition depresses fees. And the success of direct attempts to control the volume of services will depend, in part, on the attitude of the general public toward foregoing medical procedures of uncertain benefit. Finally, fears of malpractice suits may dampen physician interest in economizing on the use of services. For these reasons and more, a comprehensive approach to containing costs must go beyond reform in the way medicare pays physicians. Thank you.

[The prepared statement of Mr. Ginsburg follows:]

PREPARED STATEMENT OF PAUL B. GINSBURG

Mr. Chairman and Members of the Committee, thank you for inviting the Commission to contribute to your consideration of the recent acceleration in health benefit costs and your examination of strategies to reduce that rate of growth. The Commission's specific mandate is to advise Congress on physician payment reform in Medicare. However, reform in physician payment cannot be implemented effectively in isolation from other steps to achieve a more affordable, accessible, and effective health care system.

Recent months have refocused public attention on the affordability issue. The 18 percent increase in outlays for the Supplementary Medical Insurance (SMI) program in 1987 and the 38 percent increase in beneficiary premiums have been well publicized. The rate of increase in outlays not only exceeds the average for the previous decade but represents a distinct upturn over rates for the immediately preceding years. As you know, many private employers and insurers are seeing even sharper increases than Medicare.

This testimony outlines the directions for change recommended by the Physician Payment Review Commission. It discusses the Commission's endorsement of a fee schedule to replace Medicare's current method of paying physicians and describes how the Commission is approaching key questions about the design of a fee schedule. These include the basis for establishing relative payment levels for different services, the treatment of geographic and specialty differences, the definition and coding of physician services, and the place of balance or extra billing of beneficiaries when charges exceed Medicare allowed payments.

Since recent increases in Part B outlays have been fueled more by increases in the volume of services than by increases in prices, change in the method of payment must be integrated with policies to encourage more appropriate use of physician services. However, we still have much to learn about limiting the provision of unnecessary services without discouraging the provision of needed services. In all the Commission's work, the impact of current policies and future strategies on beneficiary access to quality care is an overriding concern.

The Commission's expectations for its reform package are optimistic but tempered by a recognition that these reforms will not singlehandedly halt the increase in Part B costs. As I will note in concluding this testimony, the pressure for higher spending on health care comes from powerful technological, legal, and economic forces that will not be easily reshaped or contained.

A FEE SCHEDULE FOR MEDICARE

In its 1987 report to Congress, the Physician Payment Review Commission endorsed a fee schedule for Medicare to replace the existing method of paying physicians based on customary, prevailing, and reasonable charges (CPR). The result of years of CPR is a distorted pattern of Medicare payments for different medical services. This, in turn, has created undesirable incentives for physician decisions about what services to provide, where to practice, and how to specialize. The current system is also inordinately complex and difficult to manage.

Relative Payment Levels. During the past year, the Commission has made considerable progress in designing a fee schedule that would correct many of the deficiencies in the existing payment system. In particular, it has defined the conceptual basis for setting relative payments for different physician services. This component of the fee schedule, commonly termed a relative value scale (RVS), should be based primarily on the resource costs of providing services. These costs include physicians' own time and effort and their costs of practice, for example, rent, staff salaries, and malpractice insurance premiums. The only practical near-term alternative to a scale based on resource costs is one based on physician charges. Such a scale would largely incorporate the distorted incentives that created the demand for payment reform in the first place.

A relative value scale based on resource costs would promote a more appropriate and efficient allocation of medical services and should generally be seen by physicians as more equitable. Today, a physician can make several times more per hour doing endoscopies than evaluating patient problems and developing treatment programs. Excessive payments for procedural services such as pacemaker insertion and cataract surgery may lead to overuse of these services, increasing outlays without comparable improvements in care. The financial promises made in advertisements for much diagnostic testing equipment suggest that these services may be overpriced as well.

During the past year, the Commission, at the request of Congress, has compared Medicare relative values for selected services with those developed by other payers through negotiation, assessments of resource costs, or other nonchargebased methods. The results of these analyses have helped guide legislation to reduce payments for overvalued procedures, an interim step consistent with our recommendations for long-term reform.

Designing a sound, comprehensive RVS based on resource costs presents several technical problems. Many of these problems and some possible solutions are illuminated in a Congressionally mandated project being undertaken at Harvard University by Dr. William Hsiao and his colleagues. This summer Dr. Hsiao will report on research to design a RVS for services and procedures in 18 specialties. The Commission will analyze carefully the project's assumptions and methods, simulate its effects on physicians and beneficiaries, and conduct public hearings to solicit the reactions of medical, consumer, and other interested groups. It will also examine related research and consider the approaches taken by other payers in this country and elsewhere. If the Commission finds inadequacies in the work done to date, it may sponsor further surveys and convene consensus panels to propose refinements.

Geographic Variation. In addition to setting relative payments for different types of physician services, a fee schedule must specify how payments will vary by geographic area. The Commission's analyses indicate that geographic variation, although not trivial, is less extreme than generally believed. Differences in physician costs of practice, although important, explain less of this variation than might be expected. Following the Commission's principle that payment levels should be tied to resource costs, staff are working on a cost-of-practice index to guide geographic adjustments in fees. We are also searching for factors that may not be adequately captured by such an index, for example, the special circumstances of rural areas.

Specialty Differentials. The Commission has started to define a uniform national policy for specialty differentials. Again, the basic principle is that payment differences should reflect differences in resource costs rather than differences in specialty designation. Many services are provided only by one or a few types of specialists, and resource-based payments for those procedure and service codes should capture the value of specialists' work. Office visits are an exception to this pattern and may need to be paid differently for different specialists or coded differently to better reflect systematic variations in the content of visits.

Procedure Coding. In general, a fee schedule will require considerable standardization in the use of codes for physician's services. The HCFA Common Procedure Coding System mandated by Congress has overcome some problems stemming from variation in the ways services are defined and coded by physicians and Part B carriers. However, much ambiguity, variability, and misuse remains.

Two priorities for the Commission's work on coding are global surgical services and visit services. We will convene an interspecialty consensus panel to develop a generic description of surgical global services. Physician experts will then identify the components of specific surgical procedures.

Coding of visit services is a particularly thorny issue. To understand the problem more fully, the Commission plans to survey physicians to determine how they interpret the differences in current codes. It will consider whether alternative definitions or other approaches might increase uniformity and specificity in the use of codes.

Assignment and Participation. Congress has done much to encourage physicians to accept Medicare allowed charges as payment in full. Physicians currently accept assignment for nearly three-quarters of Medicare claims. Still, beneficiaries paid over $2.5 billion in 1987 for balance billing on nonassigned claims. The Commission is sensitive to beneficiary liability for extra billing but is also aware of the importance to physicians of Medicare's traditional policy that lets physicians choose whether or not to accept assignment.

The Commission has not yet made recommendations on assignment, but our March report has developed much of the background for future decisionmaking. The major dimensions of policy on assignment are: Should policy cover all services and beneficiaries or focus selectively? Should extra billing be eliminated or, as now, limited in some way? What relative balance should be sought between policies to encourage assignment versus policies to prohibit or limit balance billing?

UTILIZATION OF SERVICES

Although a fee schedule is likely to encourage more appropriate choices among diagnostic and treatment options, it generally retains the incentives for overutilization that plague fee-for-service payment methods. The Commission is considering both shorter and longer term strategies to deal with the volume problem. On both fronts, strategies should selectively reduce services of least benefit without threat to the many valuable services for which Medicare pays.

Success in controlling volume will require the following. First, Medicare beneficiaries and their physicians must be willing to forego services of little or no benefit. Second, all parties--physicians, beneficiaries, and others who influence medical choices--must have more usable and complete information about the effectiveness of alternative medical services. Third, there must be incentives to use such information to eliminate unnecessary or minimally beneficial care.

Utilization Review. The Commission believes that utilization review in Medicare can become more effective in controlling volume and more credible within the physician community. This will require more systematic evaluation of the clinical soundness of existing review efforts, more careful assessment of the impact of different methods for review, and more research to focus program efforts and physician responses on real utilization problems. Several private organizations are doing sophisticated work to increase the efficiency and quality of utilization management. Medicare policy makers should consider how it might use this work--either directly or as a guide to innovation and refinement in PRO and carrier review activities.

Practice Guidelines and Feedback. Because utilization review is a relatively costly, intrusive, and limited tool, additional strategies are needed to improve physician knowledge and application of effective and efficient styles of practice. The Commission is particularly interested in two approaches: practice guidelines for specific services and feedback to physicians of information on how their practice patterns compare to others'.

Our knowledge of what treatments work for what patients is incomplete, and much more controlled clinical research on the outcomes of new and existing treatments is needed. Even so, the knowledge we already have could be better used by physicians and patients. Both feedback and practice guidelines can help bring scientific knowledge more fully to bear on the day-to-day practice of medicine. The Commission will be soliciting the advice of the medical community and others on what might be the priorities, funding, processes, and structure of a strategy for such knowledge development and transfer.

Expenditure Targets. The Commission is also investigating a more global approach to the volume problem, that is, expenditure targets. The idea would be to adjust updates in physician fees up or down on the basis of how total expenditures match a predetermined target. If physicians could collectively control the volume of services, they could achieve a full scheduled increase in fees (or more) and free themselves from some intrusive regulation. Key questions about this kind of approach are how would individual physicians respond and how could the medical community support and encourage a constructive response. The feasibility of such an approach also depends on a variety of technical and policy factors including the quality and timeliness of expenditure data, the variables to use in projecting trends and setting targets, the effectiveness of quality assurance techniques, and the mechanisms for tying global targets to payment administration. These issues are on the Commission's agenda for the coming year.

CAPITATION

In addition to reform in fee-for-service payment, the Commission wants to improve Medicare's use of capitated payment. Capitated programs are attractive for their potential to contain costs and increase access for some beneficiaries.

Quality in HMOs. The Commission is concerned about quality of care in fee-for-service medicine and will have more to say on that subject in the coming year. Its initial focus on capitated systems arises from special features of these systems. Specifically, beneficiaries are "locked in" to the system's panel of providers, and these providers generally operate under payment incentives to provide less care. The Commission's 1988 report recommends that all HMOs participating in Medicare risk contracts be subject to an accreditation process that assesses each organization's structures for quality assurance and its arrangements for compensating physicians. Participating HMOs should also be required to give physicians detailed explanations of financial arrangements and to inform beneficiaries about organizational features that could positively or negatively affect the care they get.

Payment to HMOs. The current method of paying HMOs under Medicare needs a better adjustment for differences in the health status of enrollees. Now HMOs may be penalized for enrolling sicker beneficiaries and may be inappropriately rewarded if they attract healthier individuals. One health status adjustment, the Diagnostic Cost Group, is close to being operational, and the Commission recommends that it be incorporated into the capitation formula soon.

Evidence also exists that unwarranted geographic differences in capitation payments may discourage HMO development and success in some areas of the country. Low payment levels may indicate underservice and access problems that HMOs could help remedy. The Commission has proposed a floor on county-specific payments and is working on associated technical issues.

MEDICARE DATA AND ADMINISTRATION

Successful reform of physician payment and improvements in program management depend on changes in Medicare Part B data systems. The Commission has outlined a thorough process to define data needs, propose feasible strategies for data collection, and plan for implementation in conjunction with the fee schedule.

In both its 1987 and 1988 reports, the Commission has repeatedly touched on the administrative problems faced by HCFA, Part B carriers, PROs, and the physicians and beneficiaries with whom these organizations deal. Over the years, a complex physician payment system has had layers of additional complexity grafted on to it. Some changes represent attempts to correct intrinsic deficiencies in CPR, others are attempts to cope with larger system problems. The Commission believes that policy change should be sensitive to administrative feasibility, including the reasonableness of timetables for implementing changes, the potential for management overload and resulting deficiencies in program oversight, and the need to consider the administrative costs of new policies. As part of its proposals for reform, the Commission will consider how a transition from CPR to a fee schedule should be designed, implemented, and monitored.

CONCLUSION

Your letter of invitation for this hearing accurately observes that the growing share of national resources devoted to health care has been accompanied by growing concerns about the quality, accessability, and effectiveness of medical care services and delivery systems. Those concerns are joined by worries about the financial burdens created for beneficiaries, taxpayers, and others by steep and unrelenting increases in costs.

Quick and simple solutions to the problem of rising costs for physician services do not exist. Significant progress will require a variety of responses that are developed and pursued over a sustained period. The Commission believes that the steps outlined in its recent report to Congress, many of which I have summarized in this statement, can make important contributions.

Nevertheless, there are important limitations to what Medicare payment policy can accomplish. For example, Medicare generally is not as big a factor in physician income as it is in hospital income, although some specialties do depend heavily on revenues from the program. This may limit the magnitude of change that Medicare can achieve, particularly if private payers--insurers and large private employers--do not alter their payment schedules.

Other factors are outside the reach of payment methodology altogether. For one, continued increases in the supply of physicians will be a powerful force towards additional services, even if greater competition depresses fees. And the success of direct attempts to control the volume of services will depend, in part, on the attitude of the general public towards foregoing medical procedures of uncertain benefit. Finally, fears of malpractice suits may dampen physician interest in economizing on the use of services. For these reasons and more, a comprehensive approach to containing costs must go beyond reform in the way Medicare pays physicians.

Representative SCHEUER. Thank you. And now we will hear from Dr. Joseph Painter, and to the extent that you can simply chat with us informally, it makes it much more interesting for us and for the audience, and also you can revert to some things that you have heard from other witnesses or from us.

STATEMENT OF JOSEPH T. PAINTER, M.D., MEMBER, BOARD OF TRUSTEES, AMERICAN MEDICAL ASSOCIATION, ACCOMPANIED BY BRUCE D. BLEHART, DIRECTOR, DEPARTMENT OF FEDERAL LEGISLATION

STATUS OF U.S. HEALTH CARE SYSTEM

Dr. PAINTER. Thank you, Mr. Chairman. I am pleased to represent the AMA and provide testimony on the directions for health care in our country. With me today is Bruce Blehart of the AMA's Department of Federal Legislation.

Representative SCHEUER. We're happy to have you, Mr. Blehart.

Dr. PAINTER. As a preface to some remarks that I will make to you summarizing our position, let me point out several areas.

First, is that the health care sector has become one of the largest components of the American economy, ranking second among the Nation's industries behind retail trade.

A second point is that our Nation has developed a medical and health care system that is the benchmark against which others are measured.

The third point is that these medical advances have also created some profound new moral dilemmas for which we grope for answers—our ability to keep people alive and to maintain life in handicapped infants are such issues that will cause society many, many problems as to where we spend our resources.

Representative SCHEUER. As a measure of how delicate and sensitive and anxiety-ridden those issues are that you've just discussed, the Congress has barely touched upon them. We've been unwilling to even think about them, talk about them, take testimony about them. That's how explosive we perceive them to be. I think we've been derelict and negligent in not taking them up and not taking testimony of medical ethicists and others to help chart our policy, but just to emphasize the point you're making, we won't even touch these issues with a 10-foot pole.

Dr. PAINTER. In the practice of medicare every day, it's a very difficult and continuing problem making such decisions.

Another factor I'd like to call to your attention is the uncertainty of health care needs. Who could have predicted a few years ago that AIDS would break upon us as a major new disease for which billions of dollars are being spent to find a solution? Thus, as we look at the whole issue of costs and physician payment, one should keep that in mind as well.

Nevertheless, concerns continue to be expressed over the percentage of our gross national product that is attributable to health care expenses. While this is obviously a substantial portion of the gross national product, it must be pointed out that these represent the total individual business and Government expenditures for personal services that people need and people desire. It also must be recognized there is no magic number for the amount of the GNP for health care services. As a society our Nation has determined that the amount spent for health care is justifiably increased as medicine offers new benefits, new opportunities, and new technology to challenge our changing complex of diseases.

Representative SCHEUER. Dr. Painter, I don't want to interrupt you, but I can't help it. You're giving us some very interesting testimony.

I'm not sure society has decided that the increases are merited. I think society is grappling with a way to moderate and control those increases and get a handle on them. I don't think you should think that just because Congress hasn't adequately coped with this problem that society is validating those increases and think they are getting value for their dollar.

The fact that we are here today is testimony to the fact that we are concerned. We're puzzled. We haven't yet been able to get a handle on this problem, as well as other countries around the world have, and I'm not sure that other industrialized countries are looking to us for role models. They are undoubtedly some areas where we have superb treatments and superb experts and specialists, but as far as our system is concerned, I think many of the industrialized countries feel they have better systems than we do.

The fact is, you cannot demonstrate that the extra cost of our health care system (which you can compute—the average OECD country spends about 8 percent of GNP on health care and we're spending close to 12; that's 50 percent more in terms of GNP and it's very much more in absolute terms than any of the OECD countries spend) empirically results in health outputs that are superior in any significant way to theirs; and in some very important ways ours are demonstrably inferior.

So I don't think we should be complacent that society has validated these cost increases and that nations around the world are looking to us as role models. I don't think that's true. I think that's the reason that we're here. With all due respect, you've given us some very interesting testimony, but I just want to press that amber flashing light that all is not well. Please proceed and I apologize for the interruption.

Dr. PAINTER. Mr. Chairman, certainly the point is that as technology and other new advances come into play, there will be a tendency for health care costs to rise and the amount of funds devoted as a part of the gross national product would increase. I think what we are looking at, at some point, may be the situation they recently had in Oregon where, if you recall, the young man needed a bone marrow transplant under medicaid and they had consciously made plans to shift funds out of that coverage area. Before the private resources could be garnered to allow that young man to be saved from his disease, he died. That was a judgment that they had made in terms of their own State operation. So it's those sorts of critical questions that I think we will be dealing with as a part of this total mix. That's the reason why our view has been that the GNP is not that rigid a line.

Representative SCHEUER. I want you to ignore this red light. I took a big hunk of your time. So please continue.

AMA AND PHYSICIAN PAYMENT REFORM

Dr. **Painter**. Thank you. At this point I really want to address the issue that you brought us here to discuss—that is physician reimbursement and directions for the future.

The point I would wish to make particularly deals with the future payment. The principle that the AMA believes in is that the price charged for a service is a matter between the provider and the recipient. This philosophy, of course, carries over into where the service is medical care.

Representative **Scheuer**. The provider and the recipient you say.

Dr. **Painter**. Yes, sir. We also believe that in a pluralistic system that no single payment mechanism should be advocated at the expense of another. You heard at least four approaches by the first speaker and there may be others, but we believe that the very choice offered in health care plans in this country is one of the strengths of our economic structure. We're proud to be at the forefront of examining the methodology in the payment for physician services.

What we are talking of is basically the change in the fee-for-service methodology for setting physician payment. We believe change should be based on a rational and comprehensive analysis. Mr. Ginsburg has told you of the many studies that are going on with the Physician Payment Review Commission. The AMA particularly has been involved with the Harvard University study on the resource based relative value schedule, or RVS. We believe that this RVS may offer a better basis for acceptable reimbursement than alternative proposals such as physician DRG's or fragmented revisions such as the medicare program has witnessed in recent years.

As you heard, this resource based schedule will be available in July. It's a 30-month endeavor that has involved physicians and review panels of physician experts and the resource analysis approach—that is, how much does it cost for a service—provides the most appropriate way of constructing a relative value schedule.

One other comment to bring to your attention and that is that price controls themselves are not the answer. Many have suggested fee controls, but they may have a serious negative impact. In fact, a recent statement, a copy of which you have, of highly respected leaders in economics, indicate that if rising prices merely reflect real and unavoidable cost increases, a ceiling in prices will inevitably serve to curtail the supply of medical services in general. A ceiling on fees for the treatment of the elderly is sure to reduce the quality and quantity supplied to this population group.

Representative **Scheuer**. I sincerely hope that what you have just said isn't true. I think that would reflect very poorly on the moral and ethical quality of the physicians of America and I totally hesitate to think that and I think it would reflect poorly on the quality of the young people who are thinking of going into the health care professions both to make a satisfactory living, a good living let us say, and to serve. And if some kind of limitation on salaries would turn them off, they ought to be corporate lawyers and insurance brokers. I would be profoundly disturbed if I believed that. I don't believe it. I don't want to believe it. Please don't hesitate to testify, though.

Dr. Painter. Well, I think I would simply point out that I was quoting from this economic paper developed by 11 economists. This is their view, and we are simply reporting it to you.

Representative Scheuer. I understand that. I'm not criticizing you at all, Dr. Painter.

Dr. Painter. Let me conclude by saying that basing payment on patient diagnosis or DRG is a methodology that has been basically rejected by many who have studied it.

AMA AND MEDICARE REFORM

I would like to just take a moment then to highlight for you an additional area in which the AMA is interested. We are very concerned about the need for medicare reform. For many years we have recognized that it has problems, but the most telling symptom of those problems is the projected insolvency after the turn of the century.

The AMA has culminated its study in a proposal to reform the financing of health care for the elderly that has been introduced by Representative Charlie Rose as H.R. 4455.

Representative Scheuer. Charlie Rose of North Carolina?

Dr. Painter. Yes, sir. H.R. 4455. The key elements in this are based on our basically prefunding health care for the elderly and the assurance of adequate funding. In addition to that, it calls for contributions to be made during the working years in an amount sufficient to fund future health care costs for those working as well as those who are now on medicare. Under the proposal, each individual who would reach the eligibility age would then have an annual voucher that would be sufficient to purchase a more comprehensive benefit package than currently provided under medicare. In recognition of the fact that many elderly individuals are relatively well off, the proposal calls for cost sharing for covered services to vary based on the beneficiary's adjusted gross income.

ADVANCES IN HEALTH CARE

In conclusion, let me simply say that we believe that there have been great advances in health care in this country. We believe that this is related to the dedication of enough resources to allow the continuation of good care as well as research to develop new care and new ways of managing disease.

We believe that another area that we are making great strides in is the emphasis on prevention of illness through recognition by the individual of the need to be responsible for their health, improved diet, and exercise.

Certainly I think while the expenditures for health care have greatly increased in the last 30 years, the Nation and the economy as a whole have really received significant benefits from these expenditures, not only in health status and longer life expectancy, but in improved quality of life for those who are afflicted with chronic diseases.

Thank you, Mr. Chairman, for the opportunity to participate in this panel.

[The prepared statement of Dr. Painter, together with attachments, follows:]

PREPARED STATEMENT OF JOSEPH T. PAINTER, M.D.

PRINCIPLE POINTS

of the

AMERICAN MEDICAL ASSOCIATION

to the

Joint Economic Committee
United States Congress

Presented by

Joseph T. Painter, M.D.

RE: The Future of Health Care in America

May 17, 1988

- Health care is a major part of the economy of the United States, providing over 5.7 million jobs.
- Physician services account for 20.1% of total health care expenditures.
- Some have questioned why the percentage of gross national product derived from the health care sector has doubled in the last 25 years. Advances in medical care have substantially improved the health of the American people--reducing disability, and allowing for a more productive and longer living work-force. To keep costs at 1960 levels, we would have to expect 1960 type care. People with kidney failure, who now live because of treatment including transplants, would have been lost. There are many other examples of major health care advances.
- Many factors leading to increases in health and medical care expenditures are beyond the control of the health care sector, including general inflation, the aging of the American population and professional liability costs.

- In America, individuals in need of health and medical care services should be able to get care through a pluralistic system. No single payment method should be advocated at the expense of another.

- Discussion of physician reimbursement is appropriate, and there is a need to address inequities that have built up over decades. Changes in physician reimbursement must be carefully considered to avoid counterproductive results that could stem from unconsidered actions.

- Change in the fee-for-service methodology for setting physician payment should be based on a rational and comprehensive analysis of the resources that a physician brings to bear when he or she provides a medical service.

- The AMA is actively involved with Harvard University in the development of a resource-based relative value scale (RVS). The AMA believes that a schedule of payments based on such an RVS could provide a better basis for a more acceptable reimbursement system than would alternative proposals.

- Price controls for physician services would have a serious negative impact on access and quality and would not significantly effect total health costs.

- For many years the AMA has recognized that the Medicare program is fraught with problems. The AMA has developed a plan that would substantially improve financing health care for the elderly, and this proposal has been introduced by Representative Charlie Rose (D-NC) as H.R. 4455. This program provides for prefunding of benefits to assure that there are resources for the elderly in the future.

- Key factors behind the great advances in the American people's health status are that this country has devoted necessary resources to meet health care needs.

STATEMENT
of the
AMERICAN MEDICAL ASSOCIATION
to the
Joint Economic Committee
United States Congress

Presented by

Joseph T. Painter, M.D.

RE: The Future of Health Care in America

May 17, 1988

Mr. Chairman and Members of the Committee:

My name is Joseph T. Painter, M.D. I am a physician in the practice of cardiovascular diseases in Houston, Texas, and I am a member of the Board of Trustees of the American Medical Association. With me today is Bruce Blehart, Director of the AMA's Department of Federal Legislation. The American Medical Association is pleased to have this opportunity to appear today and to offer our views on directions for health care in our country and the role that physicians play within this vital element of our nation's economic fabric.

The Health Care Sector as Part of the National Economy

Mr. Chairman, the health care sector has become one of the largest components of the American economy. It is an important part of our economy. The provision of health care services is directly responsible for 5.7 million full time jobs and ranks second among the nation's industries behind retail trade.

Hospitals and other providers of health care services are major sources of jobs and income for their local economies. Each office-based physician employs an average of 2.1 full-time equivalent non-physician personnel. Health care is highly labor intensive and from 1984 to 1986 showed a 2% increase in total private employment and a 3% increase in work hours.

The cost of this large labor pool is more frequently discussed in terms of total spending for health care services. In 1986, this amounted to $458.2 billion, with hospital care accounting for 39.2% and physicians services accounting for 20.1% of the total expenditures. The balance of the expenditures were as follows: nursing home care - 8.3%; drugs - 6.7%; dentists services - 6.5%; research and construction - 3.6%; program administration and insurance - 5.4%; other professional services - 3.1%; eyeglasses and other appliances - 1.8%; government public health activities - 2.9%; and other personal health care - 2.6%.

Health care issues have a greater and greater impact in our public policy debates. Federal and state governments confront health issues and needs directly through their funding for and administration of the Medicare, Medicaid and other public health activities, and indirectly through their involvement with the general economy as a whole. In addition, the Medicare program—with its tremendous costs—does serve to keep Congressional attention focused on health care issues.

Employers of all sizes are also becoming more concerned with achieving economies in health care payment and delivery systems, as their increasingly costly commitment to provide health benefits coverage to their employees may conflict with the competitive pressures that they face. Some in industry are now concerned that fringe benefit costs place American business at a disadvantage with foreign competitors who have lower total labor costs. It is unfortunate that the cost of meeting health care needs is often viewed today in competitive instead of human terms, with cost concerns in both the public and private sector becoming the paramount issue in the debate over the future of health care.

This focus on cost was not always the case. In the not too distant past, public policy in the health area was geared toward expansion of the health care system and wider public access to higher quality health care services. The federal government sponsored grants to promote hospital construction through the Hill-Burton program. Private health insurance was and still is promoted through various provisions of the tax laws designed to encourage health insurance purchases. Government and the private sector established major research programs aimed at eradicating or ameliorating dreaded diseases. Programs were established to increase capacity to train health professionals. The economic signals of the sixties and seventies were directed toward expansion of the health care system and increased resources to provide more and better services.

These efforts have been successful to the point that our nation has developed a medical and health care system that is a benchmark against which others are measured. In human terms, this system has contributed directly to the very well-being of America through disability avoided, lives saved, and a substantially improved quality of life.

Advances in Health Care

Mr. Chairman, it is important that we not lose sight of the great advances that have characterized our nation's health care system and the benefits that have been provided to our society.

The life expectancy of Americans has increased from 69.7 years in 1960 to 74.7 years in 1985. Infant mortality has been reduced to a record low of 10.6 per 1000 live births, almost half the figure in 1970.

Today, through the development of and widespread availability of vaccines, polio has been virtually eliminated, the incidence of mumps has fallen from over 150,000 cases in 1968 to less than 3,000 in 1985, and cases of measles have declined from 481,530 in 1962 to 2,822 in 1985.

Since 1970, the rate of death from heart disease has declined by 28.8% and by 51.3% for stroke. These advances have come through better trained physicians and major technological advances including open-heart surgery, pacemakers, new drugs, and greater public consciousness of proper exercise and diet. While cancer remains a major threat, patients are living longer after treatment and many forms of cancer, formerly viewed as inevitably leading to death, are now curable.

The modern miracle of transplant surgery provides life and hope to people otherwise facing sure death, prolonged hospitalization or deteriorating quality of life. Transplant technology and ability, a subject that until recently only existed in the realm of science fiction, have become accepted facts of medical routine. Today, there are over 100 facilities that provide heart transplants, and our abilities are still growing. In 1986, there were approximately 10,000 kidneys, 1,400 hearts, 40 heart/lungs, 900 livers, 130 pancreata, 28,000 corneas, and 1,160 bone marrows transplanted in the United States.

Artificial organs and body parts are being developed for use when human organs are unavailable. Just as we are starting to grasp the potential of artificial hearts, the use of technology to replace other body parts is becoming a matter of routine. For example, "major joint and limb reattachment procedures" was the twelfth most frequently occurring diagnosis related group (DRG) for Medicare beneficiaries in 1985, accounting for 107,384 discharges.

New diagnostic devices such as CT scanners, ultrasound, and magnetic resonance imaging have greatly enhanced our ability to make rapid and more accurate diagnoses. These technologies, which are expensive, also obviate the need to use more painful and risky invasive diagnostic procedures.

Medical advances have greatly increased the quality of health care available to Americans and the quality and length of our lives. Furthermore, a healthier population is more productive with less work days lost to illness and with reductions in percentage of individuals who are disabled from certain chronic conditions. The values of a healthier population needs to be stressed, given the demographics that illustrate the "graying of America."

Health Care Resources as a Percentage of the Gross National Product (GNP)

Concerns continue to be expressed over the percentage of our GNP that is attributable to health care expenses. While this is a substantial portion of our total national product, it must be remembered that these represent total individual, business and government expenditures for personal services that people need and desire. By way of comparison, in 1985 consumer spending on tobacco represented 1.2% of all consumer expenditures, "recreation" accounted for 6%, and health care represented 12.5% of consumer expenditures. It must also be recognized that there is no magic figure for the amount of GNP that should be spent for health care. As a society, our nation has determined that the total expended for health care could justifiably increase over the years as medical care provides new benefits to our changing population.

Mr. Chairman, we all too often hear people speak fondly of "the good old days" with regard to the quality of our cars, homes, the state of our schools and teachers, etc. We often hear favorable contrasts between health care costs in the '50s and '60s compared to current costs. We hear that spending on health care has increased from $27 billion in 1960 to $458.2 billion in 1986--from 5% of the Gross National Product to 10.9%. We are told that the cost of medical care has increased faster than the inflation rate. In such simplistic comparisons is the connotation that today's health care is the same as in those past decades and that costs have gone up because of waste and irresponsibility in the health care industry.

Such is not the case. We could turn back the clock and provide 1950 and 1960 health care to the American public. While this approach would certainly reduce costs, the consequences to the health of the American public would be dramatic. Without kidney dialysis and transplants, tens of thousands of Americans who are alive today, leading productive lives, would be lost. If we went back to the '50s and '60s technology, thousands more who have been cured of cancer would not be alive today, and the ability to see, afforded by ophthalmic advances in cataract surgery and lens implantation, would be lost by many. Without coronary bypass surgery, individuals with blocked cardiac arteries would either be disabled or subject to a higher frequency of strokes and heart attacks.

I point these facts out today not to say that all increases in health care costs are justified but to highlight the fallacy of using comparisons to another era as a basis for criticizing today's system.

The remarkable achievements in medical care have not come without cost. Our commitment to quality health care for all is placing financial strains on the government and private sector alike. In addition, medical advances have created profound new moral dilemmas for which we still grope for answers. Our new ability to keep terminally-ill patients alive for indefinite periods of time and our ability to maintain life in premature and severely-handicapped infants are issues that will cause much societal and individual soul-searching in the years ahead.

Another factor that must be considered is the uncertainty of health care needs and predictions. Just a few short years ago, the death toll from and the money spent to combat AIDS was not even considered when witnesses discussed the future health care needs of our nation. As a compassionate people, we must not let the dollars spent for care cloud the real value of the care provided or limit access to that care.

The moral and economic consequences of these advances in medical technology are profound and must be addressed. However, they should be addressed within an atmosphere of reasoned policy determination that considers all elements of society's obligations to its members, and not just within the context of economic crisis and budget cuts or an arbitrary percentage of gross national product.

Costs Increase Worldwide

In addition, it is important to point out that the United States is in no way unique in the amount of resources allocated to health care. The average annual rate of increase for health care expenditures experienced in the U.S. has been less than that in many "western" nations. The analysis of national health expenditures in other western countries indicates that the percentage share of GNP for health care expenditures in the United States is not out of line with that of the other countries. While the health share of GNP in the United States was 10.4% in 1984, France and Sweden both had percentage expenditures greater than 9%; Germany and Canada had expenditures greater than 8%. Although the United Kingdom had an expenditure that was less than 6%, it must also be remembered that in Great Britain the government has made a conscious policy decision to ration care and deliberately limit capital funding in the health care area, and this year has had to make large emergency increases in the National Health Service budget.

From 1975 to 1984, the United States actually had less real growth in health expenditures relative to GNP than Canada, Belgium, Denmark, France, Italy, Japan, Norway, and Sweden. The foreign system many seem to be touting as a model for the U.S. health care system is the Canadian experience. However, even with rigid controls on prices for medical care in Canada, Canadian per capita spending for health care is growing at roughly the same rate as in the United States.

While we do not believe that foreign experiences are comparable or transferable directly to the United States, we point out these national health care expenditure figures for other countries to show that increases in health care expenditures are not unique to the United States. We believe that increased resources dedicated to health care is a reflection of a maturing and humane society that places increased emphasis on the protection of its vulnerable population, including the ill and injured and the aging of the population in most nations.

Inflation, Aging, Liability Costs and Other Factors

Health care costs are also not immune to outside market forces. A significant percentage of health care cost increases is attributable directly to continued inflation that has become a permanent fixture of our economy. According to an article published in the Summer 1987 issue of HCFA's Health Care Financing Review, general inflation accounted for approximately 32% of the increase in total system costs (personal health care costs) for the period of 1966 to 1986. In addition, approximately 11% of the growth in expenditures is specifically attributable to the aggregate population growth over that period of time.

An additional reason for increased health care expenditures is the aging of our population. Health care expenditures and the federal responsibility for health care coverage through Medicare will increase over time as the population and elderly population in particular increases. Between 1983 and 2025, the total population is projected to grow by almost 30 percent, with the elderly population doubling to a total of 58 million or 19.4 percent of the total population. Among the elderly, the group over age 75 will also experience substantial growth: 40 percent of the elderly are now older than age 75, and this figure will increase to 45 percent in 2025; and the over age 85 group will triple from the current 2.5 million people to 7.6 million people in 2025. This substantial increase in the elderly population is particularly important as the elderly have historically utilized a greater proportion of health care resources.

Statistics also indicate that individuals over the age of 65 are more likely to be hospitalized than those under that age; they use more hospital days per hospitalization; and they visit their physician and other health care practitioners more frequently. The importance of these figures is clear: as the population ages, demands for health care services correspondingly increase and the total cost for providing those services increase.

A further factor that has contributed to the level of increase in health care costs is the liability crisis besetting the country. Physicians and patients alike pay for the rising cost of professional liability. So does the federal government as a major "purchaser" of health care services. Average premiums paid for professional liability insurance by self-employed physicians have risen from $5,800 in 1982 to $12,800 in 1986. Yearly increases well over 20% on the average continue to be documented. Premiums for high-risk specialists in Florida, New York, Illinois and other locations have soared to over $100,000 per year and are approaching $200,00 annually for some specialists in some locations.

The increase in premiums has been the leading factor contributing to the growth in patient medical bills in recent years. No other aspect of physicians' practice expenses has risen as quickly. Looking only at the total aggregate annual costs of professional liability coverage for physicians, $15.4 billion was spent in 1985. If passed along in large part to patients and taxpayers, this represents about 18.7% of the total expenditures for physicians' services in 1985.

Furthermore, the AMA recognizes that health care services should be examined for their cost-effectiveness as one element of consideration. We have been taking positive actions to review the delivery of health care services and to eliminate those health care costs that are inappropriate and are not benefiting the public.

THE FUTURE FOR PHYSICIAN REIMBURSEMENT

In your invitation to testify, you asked that we focus on the issue of physician reimbursement and directions for the future.

The AMA believes that the price or charge for a service is a matter between the provider of the service and the recipient and that this philosophy carries over to situations where the service involved is medical care.

We believe that in America individuals should be able to get care through a pluralistic system and that no single payment method should be advocated at the expense of another. The very choice offered in health care plans in this country, largely differentiated by payment methodology, is one of the strengths of our economic structure.

We are proud to be at the forefront of the process to consider changes in the payment methodology for physician services. Discussions of physician reimbursement issues are appropriate, and there is a need to address inequities that have built up over decades. These matters, however, must be carefully considered to avoid counterproductive results that could stem from unconsidered actions. Given the millions and millions of people who will be affected by any changes in the structure for how physicians are paid for their services, we strongly recommend that where changes are made that they be accomplished in an evolutionary manner.

A Resource-Based RVS: The Basis for Indemnity Payment Schedules

Change in fee-for-service methodology for setting physician payment should be based on a rational and comprehensive analysis of the resources that a physician brings to bear when he or she provides a medical service. For this reason, the AMA is actively involved with Harvard University in the development of a resource-based relative value scale (RVS). We believe that a schedule of payments based on such an RVS may provide a better basis for a more acceptable reimbursement system than would alternative proposals such as physician DRGs, wide-spread capitation, or fragmented revisions, such as the Medicare program's "inherent reasonableness" proposals, freezes in payment, and maximum allowable actual charges.

The development of a resource-based RVS, scheduled for completion by July 14, 1988, is not a simple undertaking. This thirty-month endeavor has been based on substantial physician involvement through the use of scientific surveys of physicians and review by panels of physician experts. It is our expectation that the resource analysis approach taken by this study will prove to be the most appropriate basis for the construction of an RVS.

A promising use of such a resource-based RVS is in an indemnity payment system. Under an indemnity fee schedule, the insurance payment amount would be known in advance to both physicians and patients, and they can agree upon further financial liability, if any.

Price Controls are not the Answer

In examining means to set payment levels for physician services, some have proposed fee controls. Price controls would have a serious negative impact. A recent statement on this issue endorsed by a group of highly respected leaders in economics, including two Nobel laureates, concludes:

> It is important to explore the sources of the price increases experienced by medical services because only after the causes are understood can a rational policy for the containment of the effects of those price increases be formulated. Moreover, to the extent that the price increases are to be attributed to real and largely unavoidable cost increases, rather than to the imperfect competitiveness of the medical care industry, the perils of the price control approach are necessarily exacerbated. If rising prices merely reflect real and unavoidable cost increases, a ceiling in prices will inevitably serve, in the long run, to curtail the supply of medical services in general; and a ceiling on fees for the treatment of the elderly is sure to reduce the quality and quantity of services supplied to this population group. Experience shows that, in the long run, it may even increase the prices this group is required to pay. In sum, such controls under these circumstances would constitute no benefit to the group of persons they are intended to protect. (A copy of this paper is attached.)

Payment Based on Diagnosis Related Groups (DRGs)

The AMA is unalterably opposed to a DRG-based physician payment plan. As the DRG payment for physician services would be based on an "average" for the mythically "average" patient, it would increase the present hospital-driven economic pressures for withholding care.

- Incentives caused by hospital DRGs already have limited the availability of services, as evidenced by nursing and other services pared by hospitals. Physician DRGs would create new incentives to limit access to physician services.

- By basing payment for both physicians and hospitals on DRGs, all of the economic incentives would be weighted against the patient, i.e. by providing fewer services, the hospital stay becomes more "profitable."

- DRGs do not pay for services actually rendered; in fact, they reward for services not performed. This mechanism would reinforce existing hospital incentives to reduce available care and avoid severely ill patients.

- Access to care in rural areas would suffer. Physicians would be discouraged from providing services in areas distant from their primary site of practice. Many rural hospitals already have experienced hardships due to the DRG payment methodology. It would be dangerous to further expand the DRG payment to services provided in hospitals already in crisis.

- The physician is the patient advocate, the one who now assures the patient that the DRG system does not affect patient needs. Extending the DRG to include physician payments would provide financial incentives that would erode the role of the physician as patient advocate.

Finally, House Concurrent Resolution 30 and Senate Concurrent Resolutions 15 and 56 have widespread bi-partisan co-sponsorship--326 House cosponsors on H.Con. Res 30, 48 Senate cosponsors on S.Con. Res 15, and 8 Senate cosponsors on S.Con. Res 56. They clearly state that it is neither feasible nor desirable to implement any method of payment for physician services based on DRGs.

Capitation

Our society should maintain a pluralistic system for setting the manner in which physicians receive reimbursement for the services they provide. Just as today, physicians and patients should continue to have the opportunity of participating in a variety of practice and payment methods. Alternatives must be closely examined before being imposed on the population.

Capitation, as exemplified by the current array of health maintenance organizations and competitive medical plans, has its place in the health care marketplace. However, to be effective, capitated systems should only operate in areas where they are part of a competitive environment and individuals have free choice among numerous health care plans. Our population should not be placed in a position where their only choice of a physician is one who takes part in a capitated payment methodology.

LOOKING TO THE FUTURE

The American Medical Association recognizes that the status quo of today will not and should not be the norm for the future. The need for a reform of the Medicare program cannot be underscored enough. For many years the AMA has recognized that the Medicare program is fraught with problems. The most telling symptom of these problems is that the program is headed toward fiscal insolvency shortly after the turn of the century. This fact, coupled with the virtually relentless tinkering with the program that we have seen during this decade based on fiscal concerns, acted as a catalyst for initiating an in-depth review of the Medicare program. This review culminated in a proposal to reform financing health care for the elderly. This proposal has been introduced by Representative Charlie Rose (D-NC) as H.R. 4455. (A pamphlet describing this proposal is attached.)

Key elements in our proposal include pre-funding health care for the elderly and the assurance of adequate funding. To accomplish this, the proposal calls for contributions to be made during working years in an amount sufficient to fund future health care costs for those now working, and at the same time, pay present health care costs for those now on Medicare. The program would cover the entire elderly population in the United States. To achieve the funds necessary to prefund the program, we recognize that taxing authority would have to be exercised in a manner to assure the collection and maintenance of adequate funds so that each individual upon attaining eligibility would be provided a voucher to purchase a private health insurance plan that would cover a comprehensive level of benefits.

Under our proposal, tax rates would be set at a level sufficient to pay the cost of vouchers for all eligible persons in the program in the first year of operation and each year thereafter. The tax rate would be sufficient to assure true prefunding of the program with future tax contributions made and preserved for those who contribute them. These tax dollars will earn interest and other investment income during the contributing years rather than being paid out immediately for beneficiaries then on the program.

Health Care Coverage

Under the proposal, all individuals who reach eligibility age will be entitled to an annual voucher that will be sufficient to purchase a policy providing the required comprehensive level of benefits. The benefits would be a more comprehensive benefit package than is currently provided under the Medicare program.

Through the use of their vouchers, beneficiaries would be able to choose insurance plans offered from Blue Cross/Blue Shield plans, commercial companies, HMOs, and other health benefit plans where the policy offered provided at least the specified adequate benefits. Importantly, the policy would have to provide a limit on out-of-pocket spending or cost-sharing for covered services of $2,500 per individual, $3,750 per family for most enrollees.

Needs Testing and Additional Savings

In recognition of the fact that many elderly individuals are relatively well off, the proposal calls for the amount of cost-sharing for covered services to vary based on the beneficiary's adjusted gross income.

Some individuals may want to set aside funds to purchase even more comprehensive policies and to provide coverage for the purchase of Medigap insurance and to cover deductible expenses. The proposal has provisions to authorize individuals to use the individual retirement account mechanism to meet these needs. Under the program, all working individuals will be allowed to contribute a before-tax amount of $500 a year to an IRA. After attaining eligibility age (or on becoming permanently disabled), all IRA withdrawals for health expenses would be tax free. We believe that the use of the IRA savings mechanism would provide a valuable supplemental source of health care funding for individuals under the new program. Also, these funds could be used for the purchase of needed long-term care services and insurance.

CONCLUSION

Mr. Chairman, the AMA urges this Committee and Congress to act to help assure access to and the continued high level of quality care provided by our health care system. We believe that the great advances in the American people's health status has occurred because this country has devoted necessary resources to the health care sector and has not created a system dominated by improper government intrusion. We believe this policy should continue. We also believe that great strides can be made by encouraging the American public to prevent illness through adoption of healthier lifestyles such as improved diets, reduced smoking and exercise. The federal government can play a valuable role in encouraging such activity.

America's physicians will continue to cooperate in our nation's continuing commitment to assure the highest possible level of quality health care to all Americans. We urge you to keep in mind, while expenditures for health care have greatly increased over the past 30 years, the nation and its economy as a whole has received significant benefits from these expenditures. These benefits relate to improved health status, longer life expectancy, and improved quality of life. Productivity also increases when absenteeism from illness is reduced and when chronic conditions can be controlled with workers continuing in their jobs.

Mr. Chairman, at this time I would be pleased to respond to any questions the Committee may have.

PRICE CONTROLS—AN INAPPROPRIATE PRESCRIPTION FOR THE RISING COST OF MEDICAL CARE

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PRICE CONTROLS—AN INAPPROPRIATE PRESCRIPTION FOR THE RISING COST OF MEDICAL CARE

During the last several decades, the costs of medical services have been rising at a rate persistently more rapid than that of the general price level. This constitutes a real and very urgent problem for the poor in general, and for the elderly poor in particular. But it is a problem which cannot be solved by legislation which seeks to declare its symptoms illegal. Recent proposals undertaking to impose ceilings on the fees that doctors would be permitted to charge their Medicare patients amount to the imposition of a system of price controls. As with most price control measures, these proposals are not only likely to fail to achieve their objective, but are apt to impose a costly burden upon the very persons whose interests they would attempt to protect.

In common with many other personal services, such as education, the performing arts, and a variety of services performed by state and local governments, the costs and prices of medical services have indeed risen at rates substantially higher than the economy's overall rate of inflation. During the 40-year period since 1947, according to U.S. government statistics, in constant dollars, the price of a visit to a doctor's office has risen some 150 percent, the cost of elementary education per pupil per day has risen about 300 percent, and the cost of a day of hospital care has increased approximately 1,750 percent.

No one is sure of the full explanation of these very substantial increases in the cost of medical services. But the rising physician-population ratio, the rising proportion of applicants accepted by medical schools, the increase in the number and membership of organizations such as HMOs (Health Maintenance Organizations) and PPOs (Preferred Provider Organizations) whose objective is to hold down medical care costs, and the fact that (in constant dollars) physician incomes have been virtually constant for more than a decade, all suggest that there has been no decline in competitiveness in the health care area such as would account for the pattern of sharp increase in the relative prices of medical services. There is good reason to conclude, rather, that a substantial role was played by the fact that medical care is a personal service which is not amenable to the rates of productivity increase which, for example, have constrained the rates of price increases of manufactured products.

It is important to explore the sources of the price increases experienced by medical services because only after the causes are understood can a rational policy for the containment of the effects of those price increases be formulated. Moreover, to the extent that the price increases are to be attributed to real and largely unavoidable cost increases, rather than to the imperfect competitiveness of the medical care industry, the perils of the price control approach are necessarily exacerbated. If rising prices merely reflect real and unavoidable cost increases, a ceiling in prices will inevitably serve, in the long run, to curtail the supply of medical services in general; and a ceiling on fees for the treatment of the elderly is sure to reduce the quality and quantity of services supplied to this population group. Experience shows that, in the long run, it may even increase the prices this group is required to pay. In sum, such controls under these circumstances would constitute no benefit to the group of persons they are intended to protect.

We strongly urge that price controls for medical services not be adopted precipitously. We believe that careful consideration of the matter will make it clear that price control measures for medical services are to be avoided altogether, and that a serious social problem such as this one merits a more reasoned and more promising approach.

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PROTECTING THE ELDERLY

A new approach to financing health care

A Proposal for Preserving Access to
High Quality Health Care for Older Persons
From the American Medical Association

Major Problems with Medicare

A real danger threatens the long-term existence of the Medicare program. The program is headed for bankruptcy.

Medicare today is a payment transfer system. The payroll taxes collected from people now working are paid out immediately for services to people now on Medicare, rather than being preserved for the future use of the contributing taxpayers. Right now there are about four workers paying taxes to support the services required by each Medicare beneficiary.

As our population ages, this worker base will decrease dramatically. In fact, there will be only two workers to support each beneficiary in the future. Because of this major population shift and other factors, the Medicare trust fund that pays for hospital services will be exhausted by 2002, according to a 1987 federal government report. It has been estimated that the program will be $1 trillion in debt in as little as 15 years thereafter.

Other problems in the present Medicare program include:

- No protection against catastrophic health care expenses.
- No cost-sharing related to the ability to pay.

A New Approach

The American Medical Association has a proposal that addresses these problems. It would place health care for all of the elderly on a fiscally sound basis, provide increased cost sharing for those who are financially well off, and provide the protection against catastrophic health care expense lacking under the current Medicare program.

The AMA proposal would:

- Replace the present Medicare program with a system of vouchers to older persons to purchase health insurance with comprehensive benefits, including catastrophic protection.
- Finance vouchers by a tax on adjusted gross income during working years and by continuation of the employer health insurance payroll tax (the employee portion would be eliminated).
- Set tax rates at a level sufficient to pay for current Medicare beneficiaries and gradually to preserve all tax contributions for the future use of those taxed.

The new program will cost taxpayers—both individuals and employers—substantially less than maintaining the current Medicare program. This is because:

- Tax contributions will earn investment income, rather than being paid out immediately for beneficiaries then on the program.
- There is increased cost-sharing by those who can afford to pay more of their own health costs.

A new public trust fund would safeguard tax contributions, manage investment of these funds, and disburse vouchers to eligible individuals. In addition, the new program would have a supplemental private IRA savings plan which would extend tax-exempt limits and allow tax-free withdrawals for medical expenses after eligibility age. Eligibility age would be increased to 67 over an eight-year period, to reflect improved life expectancy and health status of the population.

In Conclusion

This new approach to financing health care of the elderly will *prefund* health expense protection on a fiscally sound basis, in contrast to Medicare's current pay-as-you-go system.

It will provide *catastrophic expense protection,* also lacking in the current program.

And finally, it will enable *equitable cost-sharing* by those who can afford to pay more of their own health care expense, thus assuring a continuation of benefits for all elderly persons.

These basic elements of *prefunding, catastrophic protection* and *equitable cost-sharing* are crucial in assuring continued access to affordable, high quality health care for the elderly.

Representative **Scheuer**. Well, we very much appreciate your testimony, Dr. Painter, and if we can't get the best thinking and the most creative and thoughtful support of the community of American doctors, we're really in terrible trouble. And I'm delighted to see you appearing here in such a thoughtful open manner. It's very encouraging to me.

Dr. **Painter**. Our pleasure, sir.

Representative **Scheuer**. I think you're totally on the mark when you say that the biggest quantum jump or leap in health outputs will be the time when we convince every American that he's in charge of his own health outputs. It isn't a question of open heart surgery or CAT scans or organ transplants. It's a question of him or her and we have met the enemy and he is us. When we start taking charge of our diet, as you pointed out, our exercise, the avoidance of mind-altering drugs affecting the central nervous system, dangerous situations, tobacco, alcohol, drugs—then we'll see an extraordinary advance in American health results.

I'm going to ask you later—but I've interrupted you enough—to give us some thoughts on how the American medical community, the private community that you represent, the Government, combined, can convince people that they determine their own health outputs far more than the tertiary hospitals' health programs. They are in charge and they have to exercise responsibility to lead sane lives. So I'll be addressing this question to you during the question period and I very much appreciate your testimony.

Does your colleague wish to add some thoughts? We'd be very happy to hear from you if you have anything to add.

Mr. **Blehart**. Not at this time. Thank you, sir.

Representative **Scheuer**. OK. Then we'll move along to Dr. Dan Dragalin, vice president of group medical service for Prudential.

STATEMENT OF DANIEL DRAGALIN, M.D., VICE PRESIDENT, GROUP MEDICAL SERVICES, PRUDENTIAL INSURANCE CO. OF AMERICA, INC.

HMO'S AND PPO'S

Dr. **Dragalin**. Thank you, Mr. Chairman. Prudential has a significant amount of experience in physician payment mechanisms on both sides of the fence, the traditional side, the indemnity side, as well as the managed side. We currently provide indemnity coverage for about 22 million individuals across the United States and additionally provide managed care services to about 1.5 million folks in 42 cities.

Additionally, we are negotiating with the Health Care Financing Administration to process medicare risk-sharing contracts in 31 of our locations. Our current network of providers include 17,000 primary care physicians, 29,000 specialty physicians and 700 hospitals under contract.

Today I'm here on behalf of the Group Health Association of America, the GHAA, which is the oldest and largest representative of the prepaid managed care industry in the United States. The GHAA member plans include approximately two-thirds of the Nation's current HMO enrollment.

I won't go back through all the problems with regard to costs in medicine because they've been well delineated by the previous speakers.

As you know, a number of initiatives have been instituted in the past to try to decrease health care costs. A number of systems have been introduced both on the indemnity side and the managed care side. Second opinion surgery programs, preadmission hospital certification programs, catastrophic case management programs concentrating on high dollar claims, comparative reporting on resource utilization to select cost effective providers, all in an effort to curtail the expenditures.

I wanted to concentrate most of my testimony on HMO's. As you know, an HMO provides both coverage and service. HMO members receive a comprehensive coordinated package of medical benefits for a fixed prepaid monthly fee and I really want to stress the fact that what we're talking about is a systematic methodology of care. It's not just the financing mechanism here, but it's the delivery mechanism that's key to the understanding of the HMO.

One of the major criticisms of the American medical care system has been the dominance of specialty medicine. In fee-for-service medicine, obviously a patient is allowed to manage a great deal of his or her own care. They are free to self-refer to various specialists and subspecialists depending on their own perception of needs and they certainly do make that self-referral.

Representative SCHEUER. Excuse me. What is that, a self-referral—that means you pick a doctor?

Dr. DRAGALIN. Sure. According to your perception of your own need, obviously you can choose whether to go to an internist or a cardiologist or a rheumatologist or whatever; you can go directly to a specialist or a subspecialist bypassing, for example, a primary care physician.

Representative SCHEUER. Bypassing your family doctor?

Dr. DRAGALIN. Exactly.

Representative SCHEUER. Is that frequent?

Dr. DRAGALIN. Absolutely. On the other hand, in an HMO, each patient is a focus of a system of care—and again I want to emphasize the system of care here—in which the primary care physician—that is the family physician or the internist or the pediatrician—manages all the resources of the HMO in a system that's both beneficial to the patient and cost effective. The primary care physician functions as a comprehensive coordinator, if you will, to the patient or the beneficiary, helping the patient to determine their subspecialty needs.

HMO's additionally are expert at systematic case management and at health promotion. Services ordinarily provided in the hospital are often routinely provided on an outpatient basis or in a less costly setting and there's a tremendous emphasis on health promotion.

HMO's take this concept of the system of care one step higher through their structured quality assurance activities. All HMO's are required to establish internal quality monitoring systems which monitor the adherence of the plan's physicians to the HMO's clinical performance standards.

HMO's are by and large founded on the principle that the provider has an incentive of some kind to provide appropriate care in a cost-effective way and there's a variety of provider payment mechanisms in operation in the 600 or so HMO's across the country. One of the most common methodologies is the fixed payment or the capitation where either the physician or the group to which the physician belongs is paid a fixed sum for every member or every beneficiary who is enrolled in the plan on a monthly basis and all the health-care costs come out of that fixed sum.

Another popular methodology is a negotiated fee-for-service rate which is why we're also interested in the relative value scale that's emerging, in which physicians are paid along that negotiated fee-for-service rate but there is a percent withheld from the payment of each episode of care and then that withhold is returned to the physician or the physician group at the end of the year depending on how well the plan performed.

A number of HMO's are building quality performance measures into their incentive schemes. In short, HMO's attempt to create an environment in which providers are encouraged to give the most appropriate cost-effective medical care possible and, in fact, HMO's have had a major impact in slowing the growth in health-care costs not only by providing quality care most efficiently but also by stimulating the fee-for-service system through competition to move in the same direction.

For example, HMO's reported last year average utilization of 427 inpatient days per 1,000 enrollees and an average length of hospital stay of 4.7 days. Now that compares to a national average, the same year, of 920 days per 1,000 population and an average length of stay of 6.5 days.

Additionally, in a 12-year—you may be familiar with this study—in a 12-year $80 million health insurance experiment, the Rand Corp. has shown that HMO members experience up to 40 percent fewer admissions and save up to 28 percent on health care costs compared to the normal fee-for-service system. Furthermore—and this is critical—Rand concluded that regardless of the enrollee's income level or health status, the cost savings achieved by the HMO through lower hospitalizations were not reflected in lower levels of health status.

As you're also probably aware, as a result of the Tax Equity and Fiscal Responsibility Act of 1982, TEFRA, HMO's are also able to serve medicare beneficiaries on a prepaid capitated basis. Nearly 1 million medicare beneficiaries now receive their health care through the 133 HMO's that have medicare risk contracts.

In order for the promise of that medicare risk contract program to be totally realized, there are some serious problems that need to be addressed. HMO's are concerned about the reliability of Government as a purchaser and the stability of rates paid because of the unpredictable levels of rate increases together with the real threat of Gramm-Rudman reductions such as those that occurred in 1985 and 1986. The fairness of the rates is a second concern. Half of the risk-contracting HMO's have been experiencing much higher rates of utilization of inpatient services than previously anticipated. That may be because HMO's with their improved coverage are attracting the sickest members of the medicare population. We're encouraged that HCFA is sponsoring some very important research and demonstrations to develop a remedy to that situation.

Now obviously we believe that HMO's represent one alternative delivery and payment system and there are several policy proposals alive today that address physicians and the fee-for-service sector, one of which is the development of the relative value scale which we certainly support.

Another critical development is HCFA's proposal to enroll medicare beneficiaries in preferred provider organizations, PPO's. Under this plan, physicians who practice conservative medicine which HCFA is defining as meeting cost, volume and quality expectations, would be sought out for service to medicare beneficiaries and the beneficiaries who use those preferred providers would pay 10 percent of the bill while those who don't use the preferred providers would pay 30 percent of the bill. Currently they pay about 20 percent of the bill under the system in effect.

NEED COMPREHENSIVE SOLUTION

We believe that while these initiatives hold some promise, there is reason to believe that the reform strategies that I've outlined, like the hospital cost containment strategies, will meet with only limited success. As the primary decisionmakers for——

Representative SCHEUER. Could you state that in a way other than in the negative?

Dr. DRAGALIN. I'm sorry. It was a little confusing. What I meant was we believe that any system that concentrates on a fragment of medical care, on only reimbursement to physicians or only reimbursement to hospitals, will meet with limited success in terms of total cost efficacy because we believe that the practice of medicine is a comprehensive integrated system involving hospital admissions, outpatient surgeries, ER physician patterns, primary care visits, subspecialty visits, diagnostic habits of physicians, health promotion activities, home health care services, and DME, and any solution that purports to induce cost efficacy into health care in the United States has to take into consideration the interrelation between all those pieces of medicine.

So again, we believe that some of the initiatives hold promise, but we believe that the totality of health care has to be addressed.

In summary, clearly the managed health care industry believes that cost savings measures and utilization controls can provide important contributions to our health care delivery system without sacrificing quality. In fact, we believe that organizations providing care that is truly managed are actually providing a higher quality care than that found in the fee-for-service setting, but that the emphasis in selecting preferred providers must not fall on dollars or utilization but on quality and on the system of care. Thank you.

[The prepared statement of Dr. Dragalin follows:]

PREPARED STATEMENT OF DANIEL DRAGALIN, M.D.

GOOD MORNING. MY NAME IS DANIEL DRAGALIN, M.D. I AM THE VICE PRESIDENT FOR GROUP MEDICAL SERVICES FOR THE PRUDENTIAL INSURANCE COMPANY. WE CURRENTLY PROVIDE MANAGED CARE SERVICES TO 1.4 MILLION INDIVIDUALS IN 42 CITIES. AT PRESENT, THE HEALTH CARE FINANCING ADMINISTRATION (HFCA) IS PROCESSING MEDICARE RISK-SHARING CONTRACTS FOR 31 OF OUR PLANS. OUR EXTENSIVE NETWORK OF PROVIDERS INCLUDES 17,000 PRIMARY CARE PHYSICIANS, 29,000 SPECIALTY PHYSICIANS, AND 700 CONTRACTING HOSPITALS.

I AM HERE TODAY ON BEHALF OF GROUP HEALTH ASSOCIATION OF AMERICA (GHAA), THE OLDEST AND LARGEST REPRESENTATIVE OF THE PREPAID, MANAGED CARE INDUSTRY IN THE UNITED STATES. OUR MEMBER PLANS INCLUDE APPROXIMATELY TWO-THIRDS OF THE NATION'S HMO ENROLLMENT.

THESE ARE STRESSFUL TIMES. THE INCREASE IN POPULATION, THE RAPID EXPANSION IN MEDICAL TECHNOLOGY, AND THE EFFORTS TO IMPROVE ACCESS TO HEALTH CARE SERVICES HAVE CONTRIBUTED TO A RISING DEMAND FOR HEALTH CARE SERVICES. AT THE SAME TIME, THE FRAGMENTED NATURE OF OUR SYSTEM, COMBINED WITH THE INABILITY TO ADDRESS FUNDAMENTAL WEAKNESSES, HAVE LED TO INFLATIONARY PRESSURES WHICH HAVE CONTRIBUTED TO A RAPID RISE IN HEALTH CARE COSTS. PAYORS AND PURCHASERS, BOTH ON THE PUBLIC AND PRIVATE SIDE, HAVE BECOME INCREASINGLY RELUCTANT TO ABSORB THESE COSTS. THIS PRESENTS A SEVERE CHALLENGE TO OUR ABILITY TO PROVIDE ACCESS TO QUALITY CARE AT A REASONABLE COST FOR ALL AMERICANS.

WE COMMEND THE COMMITTEE FOR HOLDING THIS HEARING TO EXPLORE WAYS OF ADDRESSING THESE ISSUES. RESEARCH SUGGESTS THAT CURRENT METHODS OF PAYING PHYSICIANS INAPPROPRIATELY FAVOR SPECIALTY CARE OVER PRIMARY CARE, AND PROCEDURES OVER COGNITIVE SERVICES. CURRENT EFFORTS TO ADDRESS THESE PROBLEMS, AS WELL AS THE MORE GENERAL INFLATIONARY PROBLEMS OF FEE-FOR-SERVICE METHODS OF REIMBURSEMENT, SHOULD HELP TO PUT IN PLACE THE KINDS OF INCENTIVES WHICH ENCOURAGE MORE COST-EFFECTIVE HEALTH.

WE ARE SEEING AN INCREASING RECOGNITION THAT SOMETHING MUST BE DONE TO HALT THE STEADY UPWARD PROGRESSION OF NATIONAL HEALTH EXPENDITURES. THE LATEST AVAILABLE FIGURES TELL US THAT IN 1986 HEALTHCARE EXPENDITURES HAD REACHED 10.9 PERCENT OF THE GROSS NATIONAL PRODUCT. EVEN AT OUR CURRENT EXPENDITURE LEVEL OF $458 BILLION, WE HAVE APPROXIMATELY 35 MILLION UNINSURED AMERICANS AND APPROXIMATELY 70 MILLION AMERICANS WHO ARE UNDERINSURED AND WHO ARE FORCED TO STINT ON USE OF HEALTH CARE SERVICES BECAUSE THEY CANNOT AFFORD THEM.

CERTAINLY, THIS ALARMING TREND HAS COME TO THE ATTENTION OF NOT ONLY HEALTH CARE POLICYMAKERS, BUT OF ALL SECTORS OF OUR ECONOMY. MAJOR CORPORATE PURCHASERS ARE ALARMED AT THE RAPID EROSION OF THEIR COMPETITIVE POSITION EMANATING FROM INCREASING DOLLARS SPENT ON EMPLOYEE HEALTH BENEFITS. UNDERSTANDLY, OUR ELDERLY POPULATION IS DISMAYED THAT THEIR OUT-OF-POCKET HEALTH CARE EXPENDITURES EXCEED THOSE IN PRE-MEDICARE DAYS.

THE RESULT OF ALL THIS CONCERN HAS BEEN A NUMBER OF INITIATIVES DESIGNED TO ADDRESS INFLATION IN VARIOUS SECTORS OF THE HEALTH CARE SYSTEM. ATTEMPTS ARE BEING MADE TOLIMIT THE FEE-FOR-SERVICE INCENTIVE THAT THE MORE YOU DO, THE MORE MONEY YOU MAKE. MANY LARGE HEALTH CARE PURCHASERS HAVE INTRODUCED SYSTEMS OF COST CONTAINMENT SUCH AS SECOND OPINIONS FOR SURGERY, PREADMISSION CERTIFICATION FOR HOSPITAL ADMISSIONS, AND COMPARATIVE REPORTS ON RESOURCE UTILIZATION TO SELECT PRUDENT PROVIDERS.HOSPITAL SERVICES, BECAUSE THEY CONSTITUTE SUCH A HIGH PROPORTION OF NATIONAL HEALTH EXPENDITURES, WERE THE FIRST TO UNDERGO THE UPHEAVAL OF MAJOR PAYMENT REFORM. THIS HAS HAPPENDED THROUGH STATE HOSPITAL COST CONTAINMENT SYSTEMS AND THROUGH MEDICARE'S PROSPECTIVE PAYMENT SYSTEM.

THE NEXT AREA OF ACTIVITY WILL BE THE REFORM OF PHYSICIAN PAYMENT SYSTEMS, AN AREA IN WHICH HEALTH MAINTENANCE ORGANIZATIONS (HMOs) HAVE SIGNIFICANT INTEREST.

IT MAY BE OF VALUE FOR ME TO STOP AT THIS TIME AND DEFINE FOR THE COMMITTEE, BOTH THE HMO AND THE MAJOR TYPES OF ORGANIZATIONS WHICH ARE GROUPED TOGETHER AS HMOs.

HMOs PROVIDE BOTH COVERAGE AND SERVICE. HMO MEMBERS RECEIVE A COMPREHENSIVE, COORDINATED PACKAGE OF MEDICAL BENEFITS FOR A FIXED, PREPAID MONTHLY FEE.

AS THE HMO INDUSTRY HAS GROWN, IT ALSO HAS EVOLVED AND BECOME INCREASINGLY DIVERSE. ACCORDING TO GHAA'S MOST RECENT INDUSTRY SURVEY, 14 PERCENT OF RESPONDING PLANS WERE SPONSORED BY NATIONAL HMO FIRMS, 33 PERCENT INDEPENDENTLY, 26 PERCENT BY INSURERS, 16 PERCENT BY PROVIDERS, AND 10 PERCENT BY OTHERS. THE GREATEST GROWTH IN PLANS HAS OCCURRED IN IPA MODEL PLANS. IN MY OPINION, ONE OF THE GREATEST CHALLENGES FACING HEALTH POLICYMAKERS TODAY IS TO GAIN SUFFICIENT UNDERSTANDING OF HMOs AND THEIR ARRANGEMENTS WITH HEALTH CARE PROVIDERS.

A UNIQUE ASPECT OF HMOs IS THE COMPREHENSIVENESS OF THE HEALTH CARE BENEFITS WHICH THEY COVER. PHYSICAL EXAMS, WELL-BABY CARE, AND SPECIALIZED PROGRAMS INCLUDING WEIGHT LOSS AND SMOKING CESSATION ARE OFTEN PROVIDED FREE. THE SERVICES ARE DESIGNED TO HELP KEEP HMO MEMBERS HEALTHLY, BECAUSE HEALTHY MEMBERS REQUIRE LESS FREQUENT AND LESS RESOURCE-INTENSIVE CARE. THIS INCENTIVE TO KEEP ENROLLEES HEALTHY IS ANOTHER OF THE REAL BENEFITS WHICH HMOs CAN PROVIDE OUR SOCIETY.

HMOs PROVIDE COVERAGE FOR ROUTINE OFFICE VISITS, HOSPITAL AND OUTPATIENT CARE, EMERGENCY SERVICES, AND NURSING HOME AND HOME HEALTH CARE. BECAUSE OF THE INCENTIVE TO USE SERVICES IN THE MOST COST-EFFECTIVE WAY, HMOs ARE EXPERT AT CASE MANAGEMENT: SERVICES ORDINARILY PROVIDED IN THE HOSPITAL ARE OFTEN ROUTINELY PROVIDED ON AN OUTPATIENT BASIS OR IN A LESS COSTLY SETTING SUCH AS A NURSING

HOME OR THE PATIENT'S OWN HOME. IN OUR VIEW, THIS OFTEN RESULTS IN CARE THAT IS MORE ACCEPTABLE TO THE PATIENT AS WELL AS MORE COST-EFFECTIVE.

LET ME STRESS THE CONCEPT OF THE CASE MANAGER OR THE PRIMARY CARE PHYSICIAN MANAGER, BECAUSE THIS IS ANOTHER UNIQUE ATTRIBUTE OF HMOs. ONE OF THE MAJOR CRITICISMS OF THE AMERICAN MEDICAL CARE SYSTEM HAS BEEN THE DOMINANCE OF SPECIALTY MEDICINE. BECAUSE OF THE FACT THAT IN FEE-FOR-SERVICE MEDICINE, THE PATIENT IS ALLOWED TO MANAGE A GREAT DEAL OF HIS OR HER OWN CARE, PATIENTS ARE FREE TO SELF-REFER TO VARIOUS SPECIALISTS OR SUBSPECIALISTS DEPENDING ON THEIR OWN PERCEPTION OF THEIR NEEDS. THE PATIENT'S PERCEPTIONS OF HIS OR HER OWN NEEDS MAY NOT BE ACCURATE. MOREOVER MANY PATIENTS CONSIDER A SPECIALIST THEIR PRIMARY DOCTOR. OFTEN, THE PATIENT IS NOT GETTING NEEDED PRIMARY AND PREVENTIVE CARE AND THE INSURER (AND ULTIMATELY, SOCIETY) IS PAYING AN EXPENSIVE SPECIALIST FOR CARE THAT COULD BE MORE CHEAPLY RENDERED BY A PRIMARY CARE PHYSICIAN. BUT MOST IMPORTANTLY, NO ONE IS MANAGING THE OVERALL CARE OF THE PATIENT, SEEING THAT NEEDED SPECIALTY SERVICES ARE OBTAINED, AND AVOIDING THE PROVISIION OF UNNECESSARY SPECIALTY SERVICES.

IN AN HMO, EACH PATIENT IS THE FOCUS OF A SYSTEM OF CARE IN WHICH HIS OR HER PRIMARY CARE PHYSICIAN MANAGES ALL THE RESOURCES OF THE HMO IN A SYSTEM THAT IS BOTH BENEFICIAL TO THE PATIENT AND COST-EFFECTIVE.

HMOs TAKE THIS CONCEPT OF THE SYSTEM OF CARE ONE STEP HIGHER THROUGH THEIR QUALITY ASSURANCE ACTIVITIES, WHICH HAVE NO PARALLEL IN FEE-FOR-SERVICE MEDICINE. ALL HMOs ARE REQUIRED TO ESTABLISH INTERNAL QUALITY MONITORING SYSTEMS WHICH MONITOR THE ADHERENCE OF THE PLAN'S PHYSICIANS TO THE HMO's CLINICAL PERFORMANCE STANDARDS.

HMOs HAVE ALSO BEEN LEADERS IN THE DEVELOPMENT OF SOPHISTICATED SYSTEMS FOR MONITORING PATIENT SATISFACTION. CURRENTLY, GHAA IS SPONSORING A PROJECT TO DEVELOP A PATIENT SATISFACTION SURVEY INSTRUMENT WHICH CAN BE USED TO MAKE COMPARISONS BETWEEN HMOs AND FEE-FOR-SERVICE PLANS. WE LOOK FORWARD TO FUTURE COMPARISONS OF OUR QUALITY OF CARE AND SERVICE WITH THAT RENDERED BY OUR COLLEAGUES IN FEE-FOR-SERVICE MEDICINE.

HMOs ARE FOUNDED ON THE PRINCIPLE THAT THE PROVIDER HAS AN INCENTIVE TO PROVIDE APPROPRIATE CARE IN COST-EFFECTIVE WAY. THESE INCENTIVES EXIST IN THE WAY PROVIDERS ARE PAID. IN SOME INSTANCES, THE PROVIDER RECEIVES A FIXED PAYMENT, OR CAPITATION, FOR EACH PATIENT OR FAMILY ENROLLEE. IN OTHERS, THE PROVIDER MAY BE PAID A NEGOTIATED FEE-FOR-SERVICE RATE, WITH A PERCENTAGE "WITHHELD" FROM EACH PAYMENT. THIS WITHHOLD FORMS A POOL OF FUNDS TO COVER ANY SHORTAGES: ANY SURPLUS LEFT IN THE POOL MAY BE SHARED WITH THE PROVIDER AT THE END OF THE YEAR. MOST INCENTIVE ARRANGEMENTS FOCUS ON UTILIZATION OF SERVICES, AND SOME HMOs ARE BUILDING QUALITY PERFORMANCE MEASURES INTO THEIR INCENTIVE SCHEMES. IN SHORT, HMOs CREATE AN ENVIRONMENT IN WHICH PROVIDERS ARE ENCOURAGED TO GIVE THE MOST APPROPRIATE, COST-EFFECTIVE MEDICAL CARE POSSIBLE.

HMOs HAVE HAD A MAJOR IMPACT IN SLOWING THE GROWTH IN HEALTH CARE COSTS NOT ONLY BY PROVIDING QUALITY CARE MORE EFFICIENTLY, BUT BY STIMULATING THE FEE-FOR-SERVICE SYSTEM THROUGH COMPETITION TO MOVE IN THE SAME DIRECTION. HMOs REPORTED AVERAGE UTILIZATION OF 427 INPATIENT DAYS PER 1,000 ENROLLEES AND AN AVERAGE LENGTH OF HOSPITAL STAY OF 4.7 DAYS. THIS COMPARES TO A NATIONAL AVERAGE OF 920 DAYS PER 1,000 POPULATION AND AN AVERAGE LENGTH OF STAY OF 6.5 DAYS.

FOR PEOPLE UNDER AGE 65, HMOs REPORT 372 DAYS PER 1,000 MEMBERS COMPARED TO THE NATIONAL AVERAGE OF 692; FOR THOSE OVER AGE 65, HMOs REPORT 1,843 DAYS PER 1,000 COMPARED TO 3,339 DAYS NATIONALLY.

IN ITS 12-YEAR, $80 MILLION HEALTH INSURANCE EXPERIMENT, RAND CORPORATION SHOWS THAT HMO MEMBERS EXPERIENCE UP TO 40 PERCENT FEWER ADMISSIONS AND SAVE UP TO 28 PERCENT ON HEALTH CARE COSTS, COMPARED TO THOSE IN A FEE-FOR-SERVICE SYSTEM. FURTHERMORE, RAND CONCLUDES THAT REGARDLESS OF ENROLLEES' INCOME LEVELS OR HEALTH STATUS, "THE COST SAVINGS ACHIEVED BY THIS HMO THROUGH LOWER HOSPITALIZATION RATES WERE NOT REFLECTED IN LOWER LEVELS OF HEALTH STATUS." (ANNALS OF INTERNAL MEDICINE, JANUARY 5, 1987)

MOREOVER, A RECENT STUDY BY EQUICOR OF 1,208 BENEFITS MANAGERS AND CHIEF FINANCIAL OFFICERS AND 200 BROKERS AND CONSULTANTS NATIONWIDE FOUND THAT HMOs "HEAD THE LIST OF OPTIONS CORPORATE BENEFIT OFFICALS PLAN TO IMPLEMENT TO CONTROL HEALTH CARE COSTS."

ACCORDING TO A 1985 LOUIS HARRIS POLL FOR THE HENRY J. KAISER FAMILY FOUNDATION -- THE REPORT CARD ON HMOs, HMO MEMBERS ARE MORE SATISFIED WITH THEIR HEALTH CARE SERVICES, PLAN COVERAGE, AND COSTS THAN ARE FEE-FOR-SERVICE PATIENTS.

NEARLY 60 PERCENT OF HMO MEMBERS SAY THEY ARE "VERY SATISFIED" WITH THE AMOUNT THEY PAY OUT-OF-POCKET FOR THEIR CARE, COMPARED TO 21 PERCENT OF FEE-FOR-SERVICE PATIENTS. OVER 80 PERCENT OF THE HMO MEMBERS CONSIDER THEMSELVES SATISFIED.

WHEN IT COMES TO SEEING A DOCTOR WHENEVER NEEDED, 55 PERCENT OF THE HMO MEMBERS REPORT THAT THEY ARE "VERY SATISFIED," COMPARED TO 38 PERCENT OF FEE-FOR-SERVICE PATIENTS.

HMO MEMBERS ALSO SHOW A HIGHER RATE OF SATISFACTION WHEN IT COMES TO AVAILABILITY OF DOCTORS AND MEDICAL SERVICES (24 HOURS A DAY, 7 DAYS A WEEK) -- 49 PERCENT COMPARED TO 32 PERCENT OF FEE-FOR-SERVICE PATIENTS.

WE ARE PROUD TO SAY THAT NEARLY ONE MILLION MEDICARE BENEFICIARIES RECEIVE THEIR HEALTH CARE THROUGH 133 HMOs THAT HAVE MEDICARE RISK CONTRACTS.

WE BELIEVE THAT THE MEDICARE RISK CONTRACTING PROGRAM IS IMPORTANT BECAUSE IT PROVIDES MEDICARE BENEFICIARIES THE SAME ACCESS TO HMOs AS IS ENJOYED BY THE EMPLOYED POPULATION. THE HMO OPTION HAS THE POTENTIAL FOR ADDITIONAL BENEFITS FOR THE ELDERLY, SAVINGS TO THE GOVERNMENT, AND AN ORDERLY GROWTH FOR THE HMO INDUSTRY. HOWEVER, FOR THE PROMISE OF THIS PROGRAM TO BE REALIZED, THERE ARE SOME SERIOUS PROBLEMS THAT NEED TO BE ADDRESSED.

BRIEFLY, HMOs ARE CONCERNED ABOUT THE RELIABILITY OF GOVERNMENT AS A PURCHASER AND THE STABILITY OF RATES PAID. THIS IS DUE TO UNPREDICTABLE LEVELS OF RATE INCREASES TOGETHER WITH THE REAL THREAT OF GRAMM-RUDMAN REDUCTIONS SUCH AS OCCURRED IN 1985 AND 1986.

THE FAIRNESS OF THE RATES IS A SECOND CONCERN: HALF OF RISK-CONTRACTING HMOs HAVE BEEN EXPERIENCING MUCH HIGHER RATES OF UTILIZATION OF IMPATIENT SERVICES THAN ANTICIPATED. THIS MAY BE BECAUSE HMOs, WITH THEIR IMPROVED COVERAGE, ARE ATTRACTING THE SICKEST MEMBERS OF THE MEDICARE POPULATION. WE ARE ENCOURAGED THAT HCFA IS SPONSORING SOME VERY IMPORTANT RESEARCH AND DEMONSTRATIONS TO DEVELOP A REMEDY FOR THIS SITUATION.

WE ARE AWARE THAT THE RISK CONTRACTING PROGRAM IS A NEW ONE AND THAT THERE IS AN INEVITABLE PERIOD OF ADJUSTMENT WITH THIS AS WITH ANY NEW PROGRAM. GHAA IS WORKING CLOSELY WITH HCFA TO CORRECT THE EXISTING PROBLEM WITH THE PROGRAM AND WE ARE OPTIMISTIC THAT IN THE LONG RUN THE PROGRAM WILL GROW AND BE A SUCCESS.

PREPAID MANAGED CARE PLANS HAVE GROWN CONSIDERABLY IN THE PAST 14 YEARS. THE NUMBER OF HMOs HAS INCREASED FROM FEWER THAN 50 TO MORE THAN 700; ENROLLMENT HAS SOARED FROM 7 MILLION TO MORE THAN 28 MILLION. THIS PHENOMENAL RATE OF INCREASE CAN BE EXPECTED TO SLOW DOWN SOMEWHAT AND WHILE SOME CONSOLIDATION CAN BE EXPECTED IN THE INDUSTRY, THERE SEEMS LITTLE DOUBT THAT HMOs HAVE BECOME AN INCREASINGLY IMPORTANT ALTERNATIVE TO TRADITIONAL FEE-FOR-SERVICE MEDICINE. AT PRESENT, 13 PERCENT OF THE POPULATION IS ENROLLED IN HMOs, AND THIS PERCENTAGE CAN BE EXPECTED TO GROW CONSIDERABLY BY THE END OF THIS CENTURY.

WE BELIEVE THAT HMOs REPRESENT ONE ALTERNATIVE DELIVERY AND PAYMENT SYSTEM. THERE ARE MANY WHO SEE HMOs AS ONE TYPE OF "REFORM." WE RECOGNIZE THAT HMOs HAVE THE CAPACITY TO CATALYZE CHANGES IN DELIVERY OF HEALTH CARE. AT THE SAME TIME, WE FULLY RECOGNIZE THAT OUR DELIVERY SYSTEM IS PLURALISTIC. THERE ARE SEVERAL POLICY PROPOSALS ALIVE TODAY THAT DIRECTLY ADDRESS PHYSICIANS IN THE FEE-FOR-SERVICE SECTOR.

A VERY SIGNIFICANT CONTRIBUTION TO PHYSICIAN PAYMENT POLICY HAS BEEN THE DEVELOPMENT OF THE PHYSICIAN PAYMENT REVIEW COMMISSION (PPRC). AS YOU ARE PROBABLY AWARE, PPRC WAS CREATED BY CONGRESS WITH THE CONSOLIDATED OMNIBUS BUDGET RECONCILATION ACT OF 1985 (P.L. 99-272) TO OFFER ADVICE ON REFORMS OF THE METHODS USED TO PAY PHYSICIANS FOR SERVICES UNDER THE MEDICARE PROGRAM.

IN ITS FIRST REPORT TO CONGRESS, PPRC SET GOALS FOR PHYSICIAN PAYMENT POLICY, ONE OF WHICH CALLED FOR THE DEVELOPMENT OF A FEE SCHEDULE FOR MEDICARE. THE COMMISSION HAS MADE SUBSTANTIAL PROGRESS IN THIS EFFORT. THE CONCEPTUAL BASIS FOR A FEE SCHEDULE RELIES ON A RELATIVE VALUE SCALE (RVS); IN THIS MODEL, DIFFERENT PHYSICIAN SERVICES ARE VALUED AT RATES RELATIVE TO EACH OTHER. THE BASIS FOR THE RVS MAY BE EITHER WHAT HAS HISTORICALLY BEEN CHARGED FOR THE SERVICE, OR THE RESOURCE COSTS THAT ARE ASSOCIATED WITH THE SERVICE. THE COMMISSION HAS RECOMMENDED BASING THE RVS ON RESOURCE COSTS, I.E., THE ELEMENT THAT UNDERLIE THE PHYSICIAN'S SKILLS: TIME, OVERHEAD, TRAINING, ETC., AS A MORE REALISTIC AND REASONABLE FOUNDATION FOR VALUING SERVICES.

IT IS ESPECIALLY DIFFICULT, IN DETERMINING RESOURCE COSTS, TO FACTOR IN THE VALUE OF PHYSICIANS' TIME AND EFFORT. QUESTIONS CRUCIAL TO POLICY DEVELOPMENT IN THIS REGARD ARE, FOR EXAMPLE: HOW TO ACCOUNT FOR DIFFERENCES IN COST OF LIVING GEOGRAPHICALLY; HOW TO ACCOUNT FOR DIFFERENT SPECIALTY SERVICES THAT ARE ESSENTIALLY NOT COMPARABLE; AND, HOW TO ACCOUNT FOR THE SERVICES OF NON-PHYSICIAN PROVIDERS WHO ARE EMPLOYED VERY DIFFERENTLY IN DIFFERENT SETTINGS.

PPRC IS GRAPPLING WITH THESE, AND OTHER, COMPLEX ISSUES IN WORKING THROUGH THE DEVELOPMENT OF THE RVS FOR MEDICARE REIMBURSEMENT. THE COMMISSION, INDEED ALL OF US IN MEDICINE, ARE AWAITING THE OUTCOME OF RESEARCH BEING CONDUCTED AT HARVARD UNIVERITY BY PROFESSOR

WILLIAM HSIAO ON A RESOURCE-BASED RVS. DR. HSIAO'S WORK WILL ESTABLISH RELATIVE VALUES FOR SEVERAL THOUSAND PROCEDURES AND SERVICES IN 18 SPECIALTIES. THIS WORK IS OF CRITICAL INTEREST TO HCFA, AND HAS GREAT IMPLICATIONS FOR MANAGED CARE UNDER CAPITATION, AS WELL AS FEE-FOR-SERVICE MEDICINE. ALL PHYSICIANS, REGARDLESS OF PRACTICE SETTING, WANT TO BE FAIRLY REIMBURSED FOR THEIR SERVICES. SOME SPECIALTY SERVICES ARE NOTORIOUSLY HIGHLY PAID, WHILE OTHERS ARE JUST AS NOTORIOUSLY UNDERPAID. YET, EACH PHYSICIAN ARGUES THAT HIS OR HER SKILLS AND KNOWLEDGE SHOULD BE UNIQUELY VALUED. A SUCCESSFULLY DEVELOPED AND IMPLEMENTED RVS WOULD SIGNIFICANTLY IMPROVE THE EQUITY OF PHYSICIAN PAYMENT. I STRESS HERE THE WORD "SUCCESSFULLY," FOR A SYSTEM THAT IS ESTABLISHED AND/OR ADMINISTERED INAPPROPRIATELY WOULD BE DISASTROUS. PHYSICIANS WILL NOT TOLERATE UNFAIR REIMBURSEMENT. MOREOVER, AS A SOCIETY WE CAN ILL AFFORD TO LOSE PHYSICIANS WHO ARE DEDICATED TO PROVIDING BASIC PRIMARY CARE SERVICES BECAUSE THEY ARE UNDER-REWARDED.

ANOTHER IMPORTANT AND CONTROVERSIAL DEVELOPMENT IN HEALTH POLICY IS HCFA'S PROPOSAL TO ENROLL MEDICARE BENEFICIARIES IN PREFFERED PROVIDER ORGANIZATIONS (PPOs). UNDER THIS PLAN, PHYSICIANS WHO PRACTICE "CONSERVATIVE MEDICINE," DEFINED AS MEETING COST, VOLUME, AND QUALITY EXPECTATIONS, WOULD BE SOUGHT OUT FOR MEDICARE BENEFICIARIES. THE BENEFICIARIES WHO USE PREFERRED PROVIDERS WOULD PAY ONLY 10 PERCENT OF THE BILL, WHILE THOSE WHO DO NOT WOULD PAY 30

PERCENT. CURRENTLY, THE BENEFICIARY MAY PAY 20 PERCENT OF A PHYSICIAN'S BILL. THE INCENTIVE IN THIS POLICY ARRANGEMENT IS OBVIOUSLY FOR THE BENEFICIARY TO SELECT THE MOST COST-EFFECTIVE PROVIDER.

CLEARLY, THE MANAGED CARE INDUSTRY BELIEVES THAT COST-SAVING MEASURES AND UTILIZATION CONTROLS PROVIDE IMPORTANT CONTRIBUTIONS TO OUR HEALTH CARE DELIVERY SYSTEM WITHOUT SACRIFICING QUALITY. IN FACT, WE BELIEVE THAT ORGANIZATIONS PROVIDING CARE THAT IS TRULY MANAGED ARE PROVIDING A HIGHER QUALITY CARE THAN THAT FOUND IN FEE-FOR-SERVICE SETTINGS. THE EMPHASIS IN SELECTING PREFERRED PROVIDERS MUST NOT FALL ON DOLLARS OR UTILIZATION, BUT ON QUALITY.

DEFINING "QUALITY PROVIDERS" IS NOT EASY. WE DO NOT HAVE AN ABUNDANCE OF STANDARDS BY WHICH WE CAN MEASURE PROVIDER PATTERNS. WE ARE ONLY BEGINNING TO GET AN IDEA OF WHAT CONSTITUTES "OVERUTILIZATION" AND "UNDERUTILIZATION" FOR MANY SERVICES. IF WE ARE TO ESTABLISH NATIONAL POLICY OBJECTIVES FOCUSING ON PREFERRED PROVIDERS, WE MUST TAKE GREAT CARE IN FURTHER CLARIFYING OUR DEFINITIONS.

WHILE THESE INITIATIVES DO HOLD SOME PROMISE, THERE IS REASON TO BELIEVE THAT THESE REFORM STRATEGIES, LIKE THE HOSPITAL COST CONTAINMENT INITIATIVES, WILL MEET WITH LIMITED SUCCESS. FOR WHILE PHYSICIAN SERVICES ACCOUNT FOR $92 BILLION, OR 20 PERCENT OF OUR

NATIONAL HEALTH CARE EXPENDITURES, AS THE PRIMARY DECISIONMAKERS FOR HEALTH CARE RESOURCE ALLOCATION, PHYSICIANS' INFLUENCE GOES FAR BEYOND THE FEES WHICH THEY COLLECT. FOR THIS REASON, MANY OF US IN THE HMO INDUSTRY BELIEVE THAT PAYMENT REFORMS WHICH DO NOT ADDRESS THE TOTALITY OF HEALTH CARE CAN NEVER BE VERY EFFECTIVE. AS PRESSURE IS EXERTED ON ONE PART OF THE HEALTH CARE SYSTEM, AS IT WAS ON HOSPITAL SERVICES, THERE IS A TENDENCY FOR EXPENDITURES TO GO UP IN OTHER, LESS REGULATED SECTORS. IT IS RECOGNIZED THAT THE INTRODUCTION OF THE PROSPECTIVE PAYMENT SYSTEM RESULTED IN MANY SERVICES BEING MOVED OUTSIDE THE HOSPITAL. ONE RESULT WAS A 38.5 PERCENT RISE IN MEDICARE PART B (PHYSICIAN SERVICES) PREMIUMS LAST YEAR.

IN CONCLUSION, WE BELIEVE OUR POLICYMAKERS HAVE A FULL AGENDA, AND FACE AN AWESOME CHALLENGE. HEALTH CARE POLICY IN THE FUTURE WILL CONSIST OF A SERIES OF DELICATE BALANCES: THE BALANCE BETWEEN FAIR REIMBURSEMENT AND SPENDING LIMITS; THE BALANCE BETWEEN PATIENT SATISFACTION AND EFFICIENCY OF SERVICE DELIVERY; AND, LAST BUT DEFINITELY NOT LEAST, THE BALANCE BETWEEN COST CONTAINMENT AND QUALITY OF CARE. THE QUALITY OF MEDICAL CARE HAS BEEN VERY HIGH IN OUR SOCIETY, WE ARE PROUD TO SAY. WE HAVE EVERY REASON TO BELIEVE IT WILL REMAIN SO. WE THANK YOU FOR THE OPPORTUNITY TO TESTIFY AND WOULD BE HAPPY TO ANSWER ANY QUESTIONS YOU HAVE.

Representative SCHEUER. That's very interesting, Dr. Dragalin. We appreciate your testimony. We will have some questions later.

PEER REVIEW

Mr. Webber, executive vice president of the American Medical Peer Review Association. And I hope you will tell us interalia what that Federal judge's decision means.

Mr. WEBBER. Well, Mr. Chairman, I must apologize that even though I grew up in New York City, I only read the New York Times on Sundays now. So you will have to inform me exactly what the article had to say and I will appropriately respond.

Representative SCHEUER. Well, you don't have to respond at all. What the article said was that when a peer review panel operates to deny a physician the right to practice in the effort of the industry to clean up its shop and get rid of the incompetents and misfits, of whom there are a small percentage, that they are not entirely exempt from the reach of the antitrust law. In this particular case, I believe it was a doctor in Oregon, that had the right to sue and the lawsuit already has bankrupted several of the members of the peer review panel. Basically the decision—it seems to me—threatens the ability of the medical profession to remove from its ranks that percentage of doctors—whether it be 5 percent or a little less or a little more—who are negligent, drug addicted, alcoholics, senile, or otherwise mentally disturbed, and who simply shouldn't be practicing medicine. All of us have occasionally heard horror stories and we want the medical profession to be able to police itself and to remove from active practice those members who are not operating under adequate medical standards. And this case seems to make that——

Mr. WEBBER. Mr. Chairman, it's certainly a very important point. I think many physicians historically have been hesitant to get involved in peer review activities because of some of the legal constraints. We're certainly hoping at AMPRA that the new Health Care Quality Improvement Act that was passed recently under the leadership of Chairman Henry Waxman and Representative Ron Wyden, will provide some protection and encourage more physicians. I think there's good, appropriate language if peer review activities progress with appropriate due care, that there will be protection from suit. I think the AMA and the organized medical profession is looking at this legislation as a real shield against potential legal action.

In the PRO program, we have Federal immunity, so we are protected as almost an arm of the Federal Government. It's the voluntary peer review activities within hospitals, HMO's, that need the greatest protection.

Representative SCHEUER. And hospitals, too.

Mr. WEBBER. Certainly.

Representative SCHEUER. When a doctor is terminated in a hospital, when he's released or fired, whatever you want to say, and he applies to another hospital, the second hospital asks the first hospital why did this man leave. Even though there were very good grounds of medical cause for his being let go, the first hospital is very reluctant to tell the second hospital, certainly in writing, what the real reasons were because there have been substantial recoveries.

Mr. WEBBER. Right. We see that in the PRO program where we identify potential quality problems and validate quality problems. We want very much to share that information with hospitals so the hospitals can have leverage to work with the physicians on improving practice patterns. There have been some restrictions placed on PRO's to communicate quality information to hospitals and we're trying to work with HCFA to get that cleared up.

But the need to communicate quality of care information and the results of peer review activities across settings of care and among providers, accrediting bodies, PRO's, and other entities is critically important.

CONSUMER INFORMATION

Representative SCHEUER. And you could add one other constituent group. I believe that it's important to empower health consumers with knowledge about the quality care history of health providers—doctors, hospitals, nursing homes—so that they could make intelligent choices about and between health providers. If they can't get information from doctors and from hospitals about the vast array of health providers, they're not going to have the knowledge to make these critical decisions. And it's particularly important not only for hospitals to know which doctors have had a documented record of providing inadequate and sometimes grossly inadequate negligent health care, but that's also important for health consumers—for people to be able to get that information.

Mr. WEBBER. I couldn't agree more and perhaps the reason for some of the passivity within the consumer community when it comes to health care choices has to do with the lack of information that the public has about quality of care and about provider performance. I think greater information will be needed to empower individual consumers.

Representative SCHEUER. I've been working on that subject for a year or two and I am going to have a hearing on exactly that subject in another committee.

Dr. PAINTER. Mr. Chairman, when Mr. Webber finishes, maybe I could expand a little bit on some of the AMA's activity in this key area.

Representative SCHEUER. By all means, Dr. Painter. Mr. Webber, thank you, please proceed.

STATEMENT OF ANDREW WEBBER, EXECUTIVE VICE PRESIDENT, AMERICAN MEDICAL PEER REVIEW ASSOCIATION

PAYMENT REFORM AND QUALITY

Mr. WEBBER. Mr. Chairman, it's certainly an honor to testify here and I certainly appreciate the informal atmosphere and the very good coffee.

What I'd like to do today is really move away from the discussion of explicit payment methodologies to talk about the impact of payment methodologies on quality of care.

Certainly we have a problem in our society with rising health care costs, as you've identified. You are to be congratulated for focusing attention on this issue.

It's interesting to note that the key issue that is driving health care policy decisions in this country has nothing to do with the health care industry at all. It has to do with the size of the Federal deficit. I think that reality more than any other is driving health care policy decisions, and there's no question that external pressures like the deficit, like increased competition in corporate America, that is forcing corporations to control their own medical care costs, will put increasing pressure on the system to move in the direction of either regulatory controls on the health care system or more intensified competition that holds the promise to contain costs.

AMPRA is concerned with the impact of regulatory controls. Medicare seems to be moving in that direction with the introduction of DRG payments, discussions on physician payment reforms and the physician payment freezes that are already in place. It is interesting to note, however, that medicare is also trying to promote greater competition with the HMO option.

So it seems that we are heading in both regulatory and competitive directions almost at once and we're going to continue to have a pluralistic health care system.

AMPRA is concerned that the excesses of both regulatory controls on the marketplace or intensified competition will have over time an impact on quality of care.

Peer review organizations are reviewing medicare services. We also review medicaid services and services in the private sector. Although we have not seen patterns of inappropriate care caused by DRG payments or within HMO's, we have certainly identified individual instances of premature discharges in hospitals, individual HMO's that we've identified quality problems in. We are concerned that if the Federal medicare expenditures need to be controlled, that over time these regulatory controls and competitive designs might start to have an impact on quality of care. That's why we believe it's so critically important that we have a monitoring oversight system of the health care marketplace that can be able to identify when we've gone too far in our payment reform such that quality of care begins to be impacted.

QUALITY ASSESSMENT NEEDS

The other issue that I'd like to talk about involves another strategy in health care that again does not involve how we pay providers. It involves the need to develop greater medical consensus about when it is appropriate to treat and how to treat. I think some of the most interesting statistics and research out of the health care community in the last 20 years has been the data on medical practice variation, the fact that in one community a hysterectomy rate might be 10 times greater than in a like community right down the road. This practice variation reflects an uncommon degree of medical uncertainty among the medical profession about whether and when it is appropriate to treat.

As a lay person coming into the health care industry I thought there was a greater scientific foundation for clinical decisionmaking. But this variation in practice reflects uncommon uncertainty and cries out for the medical profession to develop more appropriate consensus about when to treat and how to treat. To do that I think we need to focus specifically on quality assessment tools.

I'd like to take the remainder of my time just to mention a few quality assessment tools that I think are going to be the key to both monitoring quality of care and assuring that appropriate and cost effective services are provided in the future.

First, I'd like to mention that there's a critical need for integrated data bases. PRO's have been terribly frustrated with the medicare program because of the fragmentation of data. We need an ability to track patient utilization and patient health outcomes and provider behavior across all settings of care. Often, we find a data system that's fragmented by health care setting. So we need a data base that allows us to track patient utilizaton and health care outcomes over time.

We also need as part of that data base to collect more clinically objective information on a patient's condition. There's been a lot of criticism, for instance of the HCFA mortality data, that it did not control for the severity of patient illness. If we collected more objective clinical data, we would be able to classify patients by severity of illness and have a device to measure clinical performance.

Any physician, any health care evaluator needs to measure how sick patients are when they enter the health care system to objectively evaluate clinical performance and the health care outcomes for that individual patient as a result of the clinical intervention.

So on a routine basis more objective clinical data needs to be collected on a patient's condition to permit the measurement of clinical performance.

I might also mention that severity measures are important to make more equitable payments to providers. I think the HMO industry, for instance, is concerned about adverse selection. There is a problem with DRG payments as well. I think payments to providers need to be tied much more directly to the patient's condition to make payment systems more equitable.

Third, I think we need greater research in the area of longitudinal outcome studies to really decide the question of medical efficacy. We need to track patients over time to see what the associated risks and benefits of treatment are. We have not made the investment in tracking patient outcomes to determine whether the risks of treatment outweigh potential benefits. I think society at large needs to invest in clinical trials that can really begin to determine the efficacy of medical treatment.

Representative SCHEUER. Excuse me. I agree with you totally on the outcome analysis. Do you think in doing outcome analysis for various operations—for example, hysterectomies, where the rate of hysterectomies per thousand women abroad in the OECD countries is a fraction of what it is in our country—that expanding the outcome analysis to include foreign experiences, especially in the developed countries who have very sophisticated health care systems, would be a useful broadening of the research that you're talking about?

Mr. WEBBER. Certainly. I think we can benefit from the experience of other countries. Perhaps other countries have invested in these outcome research efforts more than we have.

Representative SCHEUER. Yes.

Mr. WEBBER. It has been pointed out to me, however, that even in the foreign countries the variation in practice use is evident because, like us, they still have a problem with developing appropriate medical consensus about when to treat. There are variations in those European countries as well.

Representative SCHEUER. Within the countries as well as between the countries?

Mr. WEBBER. Within and between. Finally, my last point in terms of quality assessment tools. If we could take those outcome analyses and feed them back to the physicians, to the medical profession, then we need the medical profession to come forward with more explicit clinical standards or clinical guidelines, as Paul Ginsburg mentioned, to help guide clinical decisionmaking about whether we need to treat, when to treat, and how to treat.

The peer review community is looking for medical specialty societies, the AMA, the medical profession, to come forward with more explicit standards.

I want to give one caveat to the development of standards or clinical guidelines, however, and that is that they must be applied with appropriate due care. AMPRA believes they should be in the hands of competent review physicians particularly when they're applied in terms of payment decisions.

There is no absolute standard in medical care and physicians always need to have the latitude, given unique patient characteristics or demands, given local medical resources, given the medical judgment of physicians, a feeling that there is something that is different about that patient, to deviate from the standard. So these standards, when developed, cannot be applied for payment purposes indiscriminately across the board.

Representative SCHEUER. Rigidly.

Mr. WEBBER. Rigidly, exactly. That is the word. They must be applied with flexibility. Physicians must continue to have the flexibility to apply the art of medicine as well as the science of medicine.

Representative SCHEUER. Where a physician wants to do an operation that is counterindicated by the established consensus of what is appropriate and what is not appropriate, would it be a good idea to have at least a requirement for a second opinion in that case where a physician wanted to deviate from what standard, approved, and appropriate practice would be?

Mr. WEBBER. I think that is appropriate and we have supported sensible medicare second opinion programs and second opinion programs in the private sector since there is going to be uncertainty in medicine. There's going to be a lot of cases where there is a gray area, where it's unclear whether to go ahead with treatment or not. And that's why I'd like to get back to your point.

Representative SCHEUER. Where it's unclear what the appropriate treatment might be?

Mr. WEBBER. Exactly, what the appropriate treatment might be and whether or not to proceed with treatment.

That's why I'd like to get back to your earlier point about the need for patient responsibility. It is particularly in those instances where medical consensus is lacking, where uncertainty exists that the patient needs to understand the ranges in the potential benefits and risks of alternative treatments and patients need to make decisions rather than individual physicians about whether to proceed with treatment or not.

So I'd like to end with the point that much more information needs to get out to the patient population to empower them to make choices of which health care providers they want to select, to make choices about which medical care services are appropriate, and to make choices about their individual lifestyle. And particularly where medical uncertainty exists, I think it's almost a moral imperative that patients understand that there are both benefits and risks associated with treatment and that patient preference dictates what the final clinical decision is going to be.

Thank you, Mr. Chairman. It's been a pleasure to testify and I look forward to the opportunity to continue discussions with the panel and with you.

[The prepared statement of Mr. Webber follows:]

PREPARED STATEMENT OF ANDREW WEBBER

EXECUTIVE SUMMARY

1. PROVIDER PAYMENTS SHOULD BE GUIDED BY THE PRINCIPLE OF ECONOMIC REWARD BASED ON QUALITY PERFORMANCE.

2. THERE ARE RISKS TO THE QUALITY OF PATIENT CARE ASSOCIATED WITH EITHER REGULATORY OR COMPETIVE CONTROLS ON MEDICAL CARE SERVICES. EFFECTIVE QUALITY MONITORING SYSTEMS ARE NEEDED TO ENSURE THAT THE EXCESSES OF COMPETITION OR REGULATION DO NOT COMPROMISE QUALITY CARE.

3. RATIONING MEDICAL CARE DOES NOT HAVE TO BECOME THE INEVITABLE CONSEQUENCE OF OUR EFFORTS TO CONTROL MEDICAL COSTS. IDENTIFIED VARIATIONS IN MEDICAL PRACTICE REFLECT UNCOMMON UNCERTAINTY IN MEDICAL DECISION MAKING. GREATER EFFORTS NEED TO BE DEVOTED TO BUILDING MEDICAL CONSENSUS REGARDING THE APPROPRIATE USE OF SERVICES. NARROWING THE RANGE OF PRACTICE VARIATION HOLDS THE PROMISE OF REDUCING MEDICAL COSTS AND SERVICES WHILE IMPROVING HEALTH CARE STATUS. IT SHOULD BE UNDERSTOOD, HOWEVER, THAT SUCH AN EFFORT WILL LEAD NOT ONLY TO THE REDUCTION OF SERVICES IN OVERUTILIZED COMMUNITIES BUT THE NEED TO INCREASE MEDICAL CARE IN UNDERSERVED COMMUNITIES.

4. VIGILANT MONITORING OF THE IMPACT OF DIFFERENT PAYMENT METHODOLOGIES ON PATIENT CARE WILL REQUIRE THE DEVELOPMENT OF SOPHISTICATED QUALITY ASSESSMENT TOOLS. FOUR INSTRUMENTS ARE CRITICAL TO OUR FUTURE ABILITY TO MEASURE QUALITY:

   o INTEGRATED DATA BASES THAT ARE ABLE TO TRACK PATIENTS THROUGH THE CONTINUUM OF CARE;

   o THE ROUTINE COLLECTION OF OBJECTIVE CLINICAL DATA ON A PATIENT'S CONDITION THAT PERMIT CLASSIFICATION BY THE SEVERITY OF PATIENT ILLNESS. SEVERITY OF ILLNESS MEASUREMENT AT VARIOUS POINTS DURING THE COURSE OF MEDICAL TREATMENT CAN BECOME A MORE OBJECTIVE DETERMINANT OF CLINICAL PERFORMANCE. SEVERITY OF ILLNESS MEASURES ARE ALSO NEEDED TO MAKE PROVIDER PAYMENTS MORE EQUITABLE;

   o LONGITUDINAL OUTCOME STUDIES ARE NEEDED TO DECIDED QUESTIONS OF MEDICAL EFFICACY. PATIENT OUTCOMES MUST BE RIGOROUSLY MONITORED TO DETERMINE WHETHER THE BENEFITS OF SURGICAL AND MEDICAL TREATMENTS OUTWEIGH ASSOCIATED RISKS. CLINICIANS AND PATIENTS ARE OFTEN UNAWARE OF BOTH THE MARGINAL UTILITY AND ATTENDANT RISKS ASSOCIATED WITH TREATMENTS;

   o BASED ON THE DATA GENERATED FROM OUTCOME ANALYSIS, THE MEDICAL PROFESSION MUST STEP FORWARD AND ESTABLISH EXPLICIT CLINICAL STANDARDS THAT CAN GUIDE CLINICAL DECISION MAKING. CLINICAL STANDARDS MUST BE APPLIED WITH DUE CARE, UNDERSTANDING THAT UNIQUE PATIENT CHARACTERISTICS OR DEMANDS, AVAILABILITY OF LOCAL MEDICAL RESOURCES, OR INDIVIDUAL PROFESSIONAL JUDGEMENT WILL NECESSARILY REQUIRE DEVIATION FROM THE NORM. THE ESTABLISHMENT OF CLINICAL STANDARDS CAN ALSO CONTRIBUTE TO THE MUCH NEEDED SOLUTION TO THE MEDICAL LIABILITY CRISIS IN OUR SOCIETY.

5. PATIENT RESPONSIBILITY IS A KEY ELEMENT OF QUALITY MEDICAL CARE. PATIENT RESPONSIBILITY INCLUDES NOT ONLY THE ADOPTION OF HEALTHIER LIFE STYLES BUT THE DEMAND FOR GREATER INFORMATION TO GUIDE THE SELECTION OF MEDICAL CARE PROVIDERS AND THE CHOICE OF MEDICAL SERVICES. WHERE MEDICAL UNCERTAINTY EXISTS, IT IS A MORAL IMPERATIVE THAT PATIENTS UNDERSTAND THE RANGE OF POTENTIAL BENEFITS AND RISKS ASSOCIATED WITH TREATMENT, AND THAT PATIENT PREFERENCE RATHER THAN PROFESSIONAL PREROGATIVE DICTATE DECISION MAKING.

Mr. Chairman, my name is Andrew Webber and I am the Executive Vice President of The American Medical Peer Review Association (AMPRA). AMPRA is the national association of physician directed medical review organizations, including the federally designated Peer Review Organizations (PROs). AMPRA members conduct reviews of medical services for the Medicare/Medicaid programs and in the private sector for the employer community.

I am pleased to be invited to testify before you today and discuss the future of health care in America. Mr. Chairman you are to be congratulated for focusing attention on the medical care industry in light of rising medical expenditures and the inescapable reality that federal deficits will demand continued attempts to restrain federal expenditures for health care services. Even in these difficult economic times, the goal of the American health care system must be the provisions of quality medical services to all citizens at an affordable cost. AMPRA is committed to this goal.

Mr. Chairman, AMPRA believes that provider payments should be guided by the principle of economic reward based on quality performance. Whether the health care system moves in the direction of greater regulation or competition, incentives should be established to encourage excellence in provider performance. Better definitions of quality, however, are needed if such a principle of provider payment is to be adopted. Definitions of quality must incorporate the notion of appropriate, effective treatment, and the promotion and maintenance of good health. Such a principle of provider payments will also be contingent on the release of public information on the quality of care to permit consumer identification of quality performers.

External pressures will demand, at least for the short term, that efforts continue to contain medical care costs. It also appears likely that both regulatory and competitive strategies will be employed by purchasers of care to limit medical care expenditures. Medicare, for example, has introduced a price control mechanism for hospital payments based on DRGs at the same time that it is attempting to stimulate greater competition by encouraging Medicare beneficiaries to enroll in HMOs/CMPs.

Mr. Chairman, AMPRA believes there are risks to quality associated with both regulatory and competitive medical care systems. While PRO review of hospital based services under DRG payment and Medicare HMOs has not uncovered patterns of quality compromise, instances of premature hospital discharge and poor quality in individual HMO plans indicate that potential threats are real. The continuous pressure to contain costs through regulatory controls, or limit HMO operating expenses in response to price competition will only exacerbate underlining economic incentives in both regulatory and competitive schemes to limit patient services. Whatever cost containment strategy is established, it is imperative that we invest in a strong, comprehensive system of quality monitoring that can detect compromises to patient care.

Mr. Chairman, AMPRA believes that there is another strategy to containing medical care costs that holds the promise of saving medical expenditures while improving quality of care. This strategy does not involve decisions on how to pay providers. It does involve a concerted, systematic effort to increase medical professional consensus about whether, when and how to treat. The most significant data to emerge in the last twenty years from the health care research community is data on practice variation. First pioneered by Professor Jack Wennberg, M.D. of Harvard and now Dartmouth College, the technique of small area analysis has repeatedly demonstrated that the rates of surgical procedures and medical treatments vary tremendously among local medical markets. Evidence of wide variations in practice patterns highlight significant differences of opinion within the medical profession concerning the appropriateness of treatment. Needed research has not been undertaken to determine the efficacy of various treatment modalities. If, however, research and peer review prove that conservative practice styles are more appropriate, and these practice styles were embraced by the medical profession, health care expenditures could be reduced with improved quality. It should be understood, however, that in some underserved communities, health care expenditures will need to be dramatically increased. Even with this caveat, narrowing the tremendous range in practice variation through building greater medical consensus holds the promise of forestalling stricter regulatory controls, unfettered competition and ultimately the greatest risk to quality of care — explicit rationing of medical care services.

Vigilant monitoring of the impact of different provider payment methodologies on patient care will require the development of sophisticated quality assessment tools. Yet, the science of quality measurement is still in its infancy. A societal commitment of time, resources, and brain power will be needed to ensure the emergence of effective instruments. There is reason for confidence, however. Important work is already underway in the professional and academic communities, including the conduct of clinical trials, morbidity and mortality studies, data analysis, and the development of quality of care criteria. AMPRA and its membership together with its research affiliate the American Medical Review Research Center (AMRRC) can play an important role in this effort by testing methodologies in the field, conducting longitudinal studies and developing consensus groups within the peer review community.

Mr. Chairman, I would like to speak specifically about some of the quality assessment tools that demand our attention. The following four assessment tools are critical to our future ability to measure quality:

> Integrated Data Bases: The foundation for epidemiologic study is the ability to track both the utilization and outcome of medical care services across all settings of care. Unfortunately, medical care data bases have been too often fragmented by care setting, not permitting a longitudinal analysis of treatment episodes. Significant investments are needed to integrate data bases to permit the tracking of patient outcomes, patient utilization and individual provider practice across the continuum of care. Uniformity in the data elements collected is also imperative to permit comparative analysis. The ability to profile patient

utilization and provider behavior also permits the "targetting" or "focusing" of medical review services on indicators of inappropriate or poor quality care.

Objective Clinical Data -- A necessary complement to integrated data bases is the need to routinely collect more objective clinical data on a patient's physiological condition prior to, during, and after medical intervention. Functional status data should also be routinely collected, particularly to measure outcomes for a chronically ill elderly patient. Such data would permit the classification of patients, not by diagnosis, but by the severity of patient illness. Patient outcome analysis could then be fairly measured against the benchmark of illness severity and allow more objective evaluation of clinical performance. Routine collection of objective clinical data, if captured as part of the provider claim or payment process would also permit more equitable provider reimbursement. Provider payments would be based on the relative illness severity of the patient population. Providers would no longer be unfairly handicapped or generously rewarded by the whims of adverse or favorable patient selection.

Longitudinal Outcome Studies -- Longitudinal outcome studies that track the benefits and attendant risks of various modes of treatment are needed to decide questions of medical efficacy. Clinical decision making is plagued by medical uncertainty because too often the medical literature is vague or even silent on the short and long term benefits and risks associated with treatment. Well-funded, controlled, clinical trials are needed to evaluate outcomes for like patients who do and do not receive treatment. Similarly, various approaches to actual treatment need to be measured against patient outcomes.

Clinical Guidelines/Standards -- Ideally, the results of outcome research can be fed back to the medical profession and form the basis for the establishment of clinical guidelines for both when and how to treat. AMPRA has been impressed with the work of the

American College of Physicians and the consensus group model of the Rand Corporation in developing indicators for treatment. More entities, particularly professional specialty societies need to step forward and broaden the efforts already underway. Explicit clinical standards, if widely disseminated throughout the physician community, will help guide more intelligent clinical decision making. A derivative benefit of the establishment of clinical standards is greater protection from medical liability -- a problem still searching for solutions in our society.

Mr. Chairman, I have often thought that one of the reasons that the physician community has shied away from development of clinical standards is the real fear that they will be indiscriminately applied by the payers of care. This is why AMPRA firmly believes that any application of clinical guidelines that have the potential to affect payment decisions must be in the hands of local physician based review organizations. The application of, in time, more strict clinical standards must be accompanied by sensible medical judgements that, on an individual case basis, can take into account unique patient characteristics or demands, knowledge of the local medical care resources, and the social needs of an often chronically-ill elderly or poor patient. In short, physicians must maintain the flexibility to deviate from the norm or standard when medical judgement dictates a different course of action. This freedom cannot be restricted by the arbitrary and strict application of clinical standards. Mr. Chairman, just as the development of clinical standards must be in the hands of clinical experts so too must their application be in the hands of competent review physicians.

Mr. Chairman, as a representative of medical review organizations, my testimony has focused on the more scientific and technical aspects of quality care. I would be remiss, however, not to mention the importance of patient responsibility and patient expectations in both defining and measuring quality. Quality medical care demands that the patient become a full participant in decision making, from adopting healthier lifestyles, to selecting medical care providers to choosing the appropriate courses of treatment. Overcoming the history of patient passivity and empowering individual consumers with a greater sense of their own responsibility will require, to a greater degree than at present, the sharing and communication of health care information to the public. This is particularly important where medical uncertainty exists. It is morally imperative that providers explain to patients and patients understand the range of potential benefits and risks associated with treatment and that patient preference rather than professional prerogative dictate decision making. Providers should welcome a more informed partner in medical care delivery. It is important for both the provider and consumer to understand and appreciate the miracles and the limitations of modern medicine.

Thank you, Mr. Chairman, for the opportunity to testify.

Representative **Scheuer**. Mr. Webber, your testimony was very thoughtful and very interesting and stimulating. How do we get the patients involved in all these complicated decisions about their health?

Mr. **Webber**. Well, I think the provider community needs to step forward—and this has to do with payment decisions because providers haven't been paid to educate patients over time. They're always paid to do something in terms of providing a service, and the education of the patient by the providers is critically important for patients to understand again both the risks and benefits of medical services.

So I think we need to give incentives to providers to increase education and we need to generate more public information on health care services through various vehicles—the press, through provider associations, through consumer groups—so patients understand more about health care services and the selection of health care providers.

Representative **Scheuer**. Sometimes it's very difficult for a health care recipient to get information from health care providers as to what the treatment is and what the outcome was going to be. I just had a very complicated regime of oral surgery extending over several years and costing an enormous amount of money. I asked two oral surgeons who were doing this work to give me a simple description for my files of what was contemplated. I asked them to give me copies of x rays. This was part of my medical files. It was like pulling teeth. It took me the better part of a year to get a simple two-page explanation that I couldn't understand in any event of the kind of treatment that was contemplated.

And I had to ask. I had to get the House doctor's office to ask in writing with repeated telephone followups. It was bloody pulling teeth. And I have a certain amount of hubris to match the doctors' hubris, otherwise I never could have obtained it.

How can the average person, who sort of is a little bit intimidated by doctors anyway, ever break through this iron curtain, as they perceive it and as many people perceive it, of arrogance, of pride, of hubris, of unwillingness to share knowledge about the patient's health and about the contemplated program of treatment. I'm not saying it's omnipresent. There are many doctors I'm sure who willingly share their experience, their judgment, their plans with the patients, but all too often doctors don't communicate, not only because they're not paid for it but because they simply don't want to.

Mr. **Webber**. Well, I hope your example reflects the rare instance and I do think more and more providers understand the need for consumers to be empowered with more information and for consumers quite frankly to understand that there are limitations to modern medicine. Perhaps we would not have the medical liability crisis in this country if patients understood that there are risks associated with treatment, that not every outcome is going to be a good and positive one. So I think there are reasons why the provider community needs to educate the patient population about what the limitations of medicine are.

Representative **Scheuer**. And do you think we ought to institutionalize some kind of payment for that time?

Mr. **Webber**. Well, I'm not the payment expert, so I defer to folks who are.

PRIMARY CARE AND COMPENSATION

Representative **Scheuer**. Let's go to Mr. Ginsburg. Does your plan for a reform of medicare payment modalities include compensation to the doctor for the time that the doctor spends with his patient explaining every aspect of their case so that the patients can join in making intelligent decisions about their health care?

Mr. **Ginsburg**. There are two points I can make, Mr. Chairman.

First, the commission believes that primary care services are relatively underpaid compared to other services and to the degree that we've heard a great deal of testimony from physicians about their inability to cover their overhead costs with the medicare payment for office visit services. So I think that with a change in relative values, that would at least permit the physician to spend more time explaining and counseling the patient than has been the case before.

Representative **Scheuer**. You say it would permit them. Is there any organized attempt or program to encourage physicians to spend more time simply communicating with their patients? Has that been institutionalized in any way?

Mr. **Ginsburg**. The only thing I can think of is that physicians are often counseled by attorneys that informing patients more completely is a good preventive action in preventing malpractice suits. I'm not familiar with any other formal program.

The other point I was going to make is that under the current way that we pay for visits, we code visits according to whether they're brief, intermediate or comprehensive; we don't pay according to the content of the visit as to what the physician does. Some work that the commission is starting is to investigate alternative ways of coding for visits so that the payment might follow more closely on the content of the visits and that if the patient were counseled the physician might then obtain a higher payment for the office visit than if counseling were not included in it.

Representative **Scheuer**. You mean if some additional time apart from the actual treatment was spent in explaining to the patient their health status and their need for a particular treatment?

Mr. **Ginsburg**. Yes, that's correct.

Representative **Scheuer**. It seems to me that we ought to so organize our health care system, including the compensation of doctors for their time, to engage in the absolutely quintessentially necessary communication with their patients about their health care and their treatment. I mean, if you can't do that, there's something very wrong with our system. We ought to be doing that and I would hope that doctors could be compensated for the extra time.

Dr. **Dragalin**. Mr. Chairman——

Representative **Scheuer**. Yes, I do want to get to Dr. Painter in just a minute because Dr. Painter asked before to express some views, so I will get back to you right away, Dr. Painter.

Dr. **Dragalin**. In the managed care setting that kind of communication to the patient is indeed institutionalized and monitored and encouraged.

Representative **Scheuer**. Well, do HMO's do a better job of that?

Dr. **Dragalin**. Well, they do an excellent job. For example, most patients that are contemplating surgery have at least two opinions, one from the primary care physician and one or more from the surgeon that actually performs the procedure. In patients who are undergoing catastrophic illnesses, there is usually a catastrophic care manager who is a nurse who is assigned to the patient to assure that the patient understands everything that's happening and, indeed, that the family understands everything that's happening to the patient. Finally, all that communication is monitored through patient surveys. Patient satisfaction surveys go out to members of HMO's on an annual basis and they ask questions such as, "Do you understand what happened to you last year and is the communication that you had from your physician adequate in your opinion?" So the measurement of patient perception and the satisfaction with communication is a critical performance measure in HMO's.

Representative **Scheuer**. And you think by and large HMO's are doing better in terms of the communication that takes place between doctor and patient than other modalities let's say?

Dr. **Dragalin**. I think that as a system, because of the encouragement that we place on that kind of communication and because of the monitoring that we perform, I think they are.

Representative **Scheuer**. Dr. Painter.

Dr. **Painter**. Let me first, if I may, Mr. Chairman, comment on your current topic. When you see a patient, of course, it's important that not only do you go through the history and the physical and tests but that you get them back and talk about the diagnosis. The first point I would make is something that the Physician Payment Review Commission is looking at and certainly at AMA we've been interested in, and that is, whatever the payment mechanism, the need for a flexible definition of coding of what your service is in the office setting which recognizes and includes a longer office visit. This is needed because it takes more time to give these sort of explanations. As you think through your payment mechanism I think that would be important.

AMA AND CONSUMER INFORMATION

Second, certainly the AMA believes that patient education and informed consent, which is what you're talking about, is a key foundation for a good patient-doctor relationship. We have encouraged our members across the board to particularly develop this foundation because then you can, as Mr. Webber says, identify the risks and explain the risks to the patient fully so they understand what they're taking on. This is part of risk management which indeed may lower your liability should an untoward event occur.

Let me also, if I may, comment briefly on the patient education activities of AMA. We are very much concerned that the patient be fully informed, not only from the doctor's standpoint but from the standpoint of what diseases are. One of our major publications—and you many have seen it, if not, we can give you a copy of it—is a book on family medicine which details in simple terms with diagrams exactly what the disease processes are.

Instead of a person coming in with a sore throat and maybe seeing you and spending an office visit, perhaps they can read and be comfortable in taking care of the symptoms of a cold at home with symptomatic care. At any rate, it does provide a thorough explanation.

Last month, the board of trustees received a report on how this publishing activity will be expanded to take a distinct subject matter, whether it's women's diseases or men's diseases, and a variety of other groups that will be sold at regular book store counters and be available to the public from an authoritative source.

In addition to that, we're very much interested in patient education materials that the doctor can pass out. When you come in, we'll give you an understandable explanation both in written form and in video or audiovisual formats so that you will go away from the office with a better understanding of your health needs.

We're very much involved in this particular area.

In the whole area of preventive measures not only are we involved in a public education program on AIDS, but we're trying to make our doctors the experts across the country so they may be fully informed to inform their patients.

Another initiative is in adolescent health with all of the problems ranging from pregnancy to drugs to abuse and so on. In setting up a nationwide coalition to begin to pull together all of the various groups to work on what are the problems of adolescence, what are the successful programs, where is research needed—because we feel that only in that way within a State level activity organized by the State associations down at the county level by the county association, again pulling in the interested parties—we have an effective education of adolescents and, hopefully, the parents as well. We are going full bore on this.

Finally, I would point out to you and call your attention to the fact that in our medicare proposal that I discussed, H.R. 4455, there is a provision for inclusion of preventive measures, which would include an annual assessment or periodic assessment of the individual's status that hopefully would find preventable health care problems. Also, this should at least control and improve the longevity of the patient.

These activities would cover at least, in part, what is going on within the AMA. Also, if I could for one moment talk about the quality issue.

Representative **Scheuer**. By all means.

Dr. **Painter**. Would you like to get into that?

Representative **Scheuer**. I'll tell you what. Let's just wait a second because I want to ask you about this education program that you're discussing.

You're discussing the desirability and the AMA support for doctors communicating with patients, about early teenage out-of-wedlock pregnancies, about AIDS, about drug addiction, controlled substances addiction, drugs, alcohol, whatever.

I take it that most of your doctors are treating middle-class kids. They haven't really impacted as much as all of us would like on the minority kids in the barrios let us say.

Why is it that as a society we have failed significantly to discourage middle-class kids, teenagers, and kids in their twenties, from resorting to controlled substances, mind-altering drugs affecting the central nervous system, heroin, cocaine, barbiturates, hallucinogens, uppers, downers? Why has there been such a continuing prevalence of that in the suburbs, in good middle-class and upper middle-class communities? And I don't want to load the blame on the medical community. Undoubtedly, society is at fault in many other ways. Parents are at fault. Perhaps the churches and community groups of one kind or another could have done more.

But do you think the medical profession, so far as these middle-class kids are concerned, could do more and where do you think other elements of society could make a contribution to getting these young people to abjure these controlled substances, these narcotics, that are going to radically impact their lives, destroy careers, and destroy marriages, and ultimately a good many lives? Surgeon General Koop, I heard him on television on the "MacNeil-Lehrer Show," 2,000 fatalities a year from cocaine, 4,000 from heroin, 125,000 from alcohol, well over 300,000 from smoking. Where could we do more? Where could the doctors of America do more and where could society in general do more?

Dr. PAINTER. Well, you're correct by thinking that it is a societal problem. The medical profession does have an opportunity to see many of the problem areas and hopefully guide those individuals into proper treatment facilities.

Representative SCHEUER. Not only treatment, but in terms of preventive education, prevent these kids from messing around with substances that are going to have devastating impacts on their lives.

Dr. PAINTER. That's the reason why we felt there was a need for a coalition of interests representing the educators, the church and their ministry activities, the psychologists and the people in those sciences, plus a variety of other groups that we can bring together. This national coalition first began to address the problem of what is the cause, what do we know about it, where there are successful programs at a local level or a State level and what are they, can these programs be replicated somewhere else, and finally, what are the research questions that need to be raised and brought to the attention of the Federal Government or State government or other funding agencies that will address and give us the information we need in that context.

Representative SCHEUER. Could I interrupt you one second there? Could you give us a list of the research questions that you think ought to be addressed?

Dr. PAINTER. We are now developing that. There is a national coalition. There is a research group formulated from the experts across the country that are examining those questions. I'm not sure exactly of the status of the development by the research group. We can certainly look and see where they are in their deliberations and then help provide that.

Representative SCHEUER. Perhaps you could get back to us with a list of the research topics that you think perhaps the private medical community together ought to address or perhaps there's a Federal role in organizing it and coordinating it and perhaps funding it. We would be very much interested in your views on that.

Mr. BLEHART. Mr. Chairman, the American Medical Association's Adolescent Health Initiative is really fairly new. Its first report just came out about 2 years ago setting out some of the parameters of the problem. The third report, which is due to be completed next month, goes into some of the directions that are going to be advocated by the AMA to try to address some of these problems. We'll see that a copy of that report, when it's finalized, is sent to you.

Representative SCHEUER. How soon do you expect that?

Mr. BLEHART. This report is going to be done by the end of June. The American Medical Association staff to look and deal specifically with this issue, a dedicated staff dealing with adolescent health issues, has only been on board in the last year. It's a matter that the AMA is giving much more attention to. As you were clearly indicating, there's a need to start to address the matter and to educate the Nation's physicians as one of the first-line defenses to prevent these problems from becoming larger in the future.

[The following information was subsequently supplied for the record:]

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DIVISION OF LEGISLATIVE ACTIVITIES
ROSS N. RUBIN, J.D.
Director

DEPARTMENT OF FEDERAL LEGISLATION
BRUCE D. BLEHART, J.D.
Director
(645-4764)

June 16, 1988

The Honorable James H. Scheuer
Subcommittee on Education and Health
Joint Economic Committee
SD-G01 Dirksen
Washington, D.C. 20510

Dear Representative Scheuer:

At the May 17 hearing before the Subcommittee on Education and Health of the Joint Economic Committee, Joseph T. Painter, M.D., in testifying for the American Medical Association indicated that a copy of the Association's Third Report on Adolescent Health would be forwarded to the Committee for inclusion in the May 17, 1988 hearing record. A copy of this report, which is scheduled to be considered by the Association's House of Delegates at the end of June, is included with this letter.

Very truly yours,

Bruce Blehart

BB/dap
Encl.

REPORT OF THE BOARD OF TRUSTEES

Report: KK
(A-88)

Subject: Adolescent Health: Background Report

Presented by: Alan R. Nelson, M.D., Chairman

Referred to: Reference Committee E
(J. Edward Hill, M.D., Chairman)

ABSTRACT

The AMA White Paper on Adolescent Health focuses on many pressing health issues facing adolescents. These problems have deep and complex roots that are related at least in part to current economic realities and the attitudes and values of our culture. Although this dependence sometimes is mentioned in discussions of adolescent health, seldom is it explored adequately to yield an understanding of the relationships between societal characteristics and adolescent health. This background paper addresses these relationships by focusing on the following issues:

Economic Realities

- Adolescents frequently work in service or retail industry jobs. On the average, it takes two retail sector jobs to equal the pay of one manufacturing job.
- The income from a minimum wage job will not support an intact family of three above the poverty level.

Family, Community and the Role of Adolescents

- Adolescents spend very little time with adults, either at school, in the workplace, or at home. Consistent and available adult role models for adolescents are not readily accessible.
- In our society there is no well-defined role for adolescents.

Family Structure

- The numbers of families headed by single women has been growing due to high divorce rates and extramarital pregnancies. Single mothers and their children are at high risk for poverty.

Past House Actions: A-87:169-176; I-86:175-179

- In 1986, 20% of all children under the age of 18 lived in poverty.

- Two thirds of black children in female-headed households live in poverty.

Television

- Laboratory studies have shown that viewing violence on television is linked with aggressive behavior.

- On TV shows, sexual references and sexual innuendo are very common. Television ads also send clear messages about sexuality. At the same time, parents and society as a whole are preaching abstinence.

OVERVIEW

Images of troubled adolescents abound and pervade every socioeconomic stratum from teenage gangs roaming inner city ghettos to groups of affluent teenagers listlessly roaming through sprawling suburban malls. The risk of substance abuse, teenage pregnancy, and emotional disorders threaten all children as they make the transition to adulthood. Many succumb; one in four will suffer the consequences of school failure, drug abuse, teenage parenthood, crime, or delinquency.

When considering the problems that adolescents face, it is easy to focus on adolescents themselves as the root of the problem. Complaining about "kids these days" is a centuries-old tradition. Shakespeare described Elizabethan teenagers as "wronging the ancientry" while Goethe said "youth is a disease time cures." Although teenagers have always been easy marks, blaming them for their problems is a dangerous and destructive habit. It is easy to blame the teenage drug abuser, for example, for getting involved in drugs in the first place, to say the adolescent was wholly responsible for choosing this self-destructive behavior - in essence to blame the victim. This simplistic approach looks at troubled adolescents and their problems as the disease instead of as symptoms partially related to the current economic realities and the changing attitudes and values of our society and culture.

Focusing on the individual adolescent isolated from his environment obscures the role that our society and culture play in influencing and limiting the choices that are available. What is it about our society that induces almost 80% of our population to use an illicit drug by age 27? What is responsible for tripling the suicide rate among young white males in the past 30 years? Why does the United States have double the rate of teenage pregnancy compared to France even though sexual activity is remarkably similar in the two countries? We must acknowledge how our societal values about sexuality influence a teenagers' emerging sexual identity and their understanding of the risks of sexual activity. To hold adolescents wholly responsible for their lifestyle choices is to assume that they are acting independently, are unconstrained by their surrounding environment, and know and understand the consequences of their choices. This is unrealistic. The problems of adolescents cannot be approached independently of each other and of the environmental backdrop. The problems of adolescents do not lie totally within adolescents.

A teenager living in poverty who is unmotivated by school and who sees limited employment opportunities even with a high school diploma will not see a future worth investing in. Instead of "just saying no to drugs," teenagers may ask "just why not?" From a teenage girl's perspective, an early extramarital pregnancy will not foreclose any future opportunities if she perceives none. In fact, it may seem like the best alternative in an American society where success in school, work, or family are so highly valued. Schools and cultures must offer some justification for learning, and future potentials must be able to compete with everyday realities. For many, they do not. These teenagers' lifestyle choices are rooted in and shaped by the socioeconomic realities of poverty. For them, a bright and appealing future may well be the best deterrent for drug use and teenage pregnancy.

Social, cultural, and economic factors must be considered in order to devise effective intervention strategies. Focusing on the teenager's pregnancy or on the individual drug abuser diverts attention from the broader, social issues of the alarming high-school dropout rate or the lack of job opportunities for non-college youth. If runaway and "throwaway" children are simply labeled delinquent, then the important perspective of the abusive and untenable home environments, which may be the real problems, is lost. Likewise, this understanding is essential in evaluating why certain programs work in different settings. A drug intervention program originally designed for inner city youth may be ineffective for suburban teenagers.

Overemphasis on the individual troubled adolescent creates another insidious phenomenon: stereotyping all adolescents as rebellious and even dangerous. The fact is that the majority of adolescents are able to make the transition to adulthood and adult responsibility without permanent scarring. Although the consequences of an unsuccessful adolescence may seem more devastating than ever - drug abuse and its grave implications have no counterpart in the harmless adolescent experimentation so fondly remembered by many adults - some investigators estimate that the proportion of "disturbed" adolescents has remained steady over the last three decades.

The common assumption that adolescence is necessarily a period of "storm and stress" has been challenged by many researchers. Certainly adolescence is a time for trial and experimentation. It always has been. While teenagers will question their parents' authority, many still share their parents' basic values. Most disagreements revolve around routine chores and other household responsibilities, not major moral or political issues. Parents however, often feel threatened by adolescents and their peer groups and dismiss them as a separate pseudospecies in a remote world of their own. Adolescent jargon and unorthodox clothes and hairstyles reinforce this notion. Adults must try to interact with adolescents in a constructive way if the transition to adulthood is to proceed smoothly. Negative perceptions about the "generation gap" and adolescent disdain for adults impair this process.

The many well-adjusted, productive teenagers become victims of the prejudices that negative stereotypes create. Negative myths affect the quality of respect and recognition that are accorded to individual adolescents. A feeling of deep distrust and dislike between adults and adolescents is the result. If adults assume that adolescents are generally untrustworthy, there will be few opportunities for adolescents to assume adult roles and responsibilities. Even if a 25-year-old and a 17-year-old are equally qualified for a job, a stereotype of an unreliable and unstable worker will seriously handicap the 17-year-old. When adults dismiss adolescents as temporary inhabitants of a developmental or even, as some people think, a pathologic stage, it hinders a teenager's development of individuality and self-esteem, two goals that are at the very core of the adolescent experience. If adults approach adolescents with a "batten down the hatches" crisis mentality, it just may become a self-fulfilling prophecy.

Adolescence must be viewed as one of many life transitions. Some think that the transition from childhood to adulthood is no more troubled than the transition to middle or old age. This is not to deny that the problems of adolescents are serious. Certainly, lifestyle choices made in adolescence have lifelong effects that limit future choices and can compromise adult potential. But the current intense focus on the problems of adolescence without the broader perspective of this period as being meaningful and productive colors attitudes and reactions to teenagers. Frequently, adults are ready to assume the worst.

Adolescence, then, must be approached with both a very broad and very individual perspective. A broad perspective is needed to understand how our society and culture shapes the adolescent world. At the same time, adolescents should be regarded as individuals without letting negative stereotypes and myths prejudice our approach.

FOREIGN EXPERIENCE IN CAPITATION PAYMENT

Representative **Scheuer**. Mr. Etheredge, how is the capitation worked abroad?

Mr. **Etheredge**. Well, it works at several levels. One example is England, where most primary care physicians have a panel of patients for whom they are responsible for providing primary care. They receive a capitation payment from the Government. The British are very pleased with that system.

The other place in which capitation is used is at the Provincial level in Quebec where it is used primarily to control costs. It is used also in the Federal Republic of Germany by various funds and at the national level.

Let me make a broad point here, Congressman. The research internationally shows a lot of different systems for paying physicians—capitation, salary, fee-for-service. The one invariant across countries is that physicians tend to feel very strongly and positively about the system they are used to. Those who grew up under capitation in Britain believe that that's the right way to practice. Those who have a salary base in medical schools think that, of course, that's the right way. And those who have grown up in this country under fee-for-service believe that's the way to pay for medical care

Physicians can live and practice high quality medicine under all these different types of systems. That's the basic message. Physicians have been willing to negotiate fee levels much more readily than they have been willing to change the basic system by which they are paid.

EFFECTS OF PAYMENT SYSTEMS

Representative **Scheuer**. Mr. Etheredge, to what extent do you think that the fee-for-service system is responsible for the large variations in percentage of women involved in hysterectomies and all kinds of operative procedures—to what extent are these large variations, both between communities, between States, between regions of our country and between our country and other advanced developed countries abroad? To what extent is the fee-for-service system responsible for this variation.

Mr. **Etheredge**. I think it has a large role. But there is also a lot of uncertainty about what's good medical practice. I think that physicians who are practicing wildly varying patterns of medicine believe that they are practicing good medicine, even though you could find some people saying it's economically motivated.

What I think is happening in this country, among other things, is a great growth in physician supply. That puts a lot of pressures on physicians and allows opportunities to increase the supply of services of all kinds, particularly in gray areas like hysterectomies, where there are wide differences of opinion about what is good medical care.

We are seeing change in general patterns of care and an escalation in technology and procedures across the broad that is allowed by the payment system.

The one great constant you can find in health care, however, is that real physicians' incomes over the last 15 years have stayed constant, even with the 60-percent increase in supply.

Representative SCHEUER. So even with a 60-percent increase in supply——

Mr. ETHEREDGE. The supply of physicians increased 60 percent. A lot of economists said that was going to reduce physicians' real income. Physicians' real income has stayed level, however, even though physicians are seeing substantially fewer patients through the course of a week. So some economists argue for an income hypothesis—that doctors expand supply of services in order to maintain the levels of income to which they have become accustomed.

Representative SCHEUER. What is that level of income? What is the median income?

Mr. ETHEREDGE. It's about $115,000. That includes as expenses things like pensions and other things, so gross income is higher than that.

So this is a matter of a good bit of debate. I think most economists now would believe in a modified system——

Representative SCHEUER. That would be after malpractice insurance?

Mr. ETHEREDGE. Those are, after all, expenses. Of course, incomes vary a great deal. There are physicians who provide primary care, like pediatricians, who tend to be the lowest paid and their incomes have been falling—which I think is quite unfair. On the other extreme, some of the highly paid surgical specialties have not only been substantially above $115,000 but they have seen their income continue to grow because of the way we pay for those services.

Representative SCHEUER. That's very unfortunate from the point of view of society. What are the economic dynamics that determine that primary care physicians salaries are falling while these pricey high technology specialties are rising? They are substantially higher in the first place and rising.

Mr. ETHEREDGE. It varies. For pediatricians, of course, the baby boom just passed through so there are fewer patients to deal with.

A second part of the dynamics is that medical technology does change quite differently in different areas. Just look at cataract surgery, bypass surgery, transplants—those are areas in which medicine can do more things than 15 years ago. So there is a reason for those increases.

Office-based care—talking with the patient, counseling them about nutrition—those messages don't change. New patients come all the time who have to be counseled, but you can't multiply the number of tests.

So to go back to your question, we have built a system that—because it pays for procedures—tends to be very unfair to many physicians.

Representative SCHEUER. It's not only unfair, but it's bad from the point of view of society because the family physician has a great deal to offer the patient in terms of advice on just the things that you mentioned, diet, exercise, avoidance of controlled substances, alcohol, tobacco, drugs, and that's probably the most important health care that the patient is likely to receive and the system ought to encourage delivery of that kind of what is in effect preventive health care, even though it's in a treatment setting.

Dr. Ginsburg, is the rethinking of your commission going to help ameliorate that problem of declining incomes for family physicians as compared to the high price specialties?

Dr. GINSBURG. Yes, I would expect that the physicians whose practice focuses on primary care probably will benefit from a realignment in relative values.

If I could add a couple of reasons to what Mr. Etheredge said about the reasons for the income differential, part of it is that the primary care physician dealing with an office visit is only selling his or her time, and can't have productivity gains, whereas for the procedural orientation there have been productivity increases. Technology has permitted many procedures—I think a notable example is cataract surgery—which is done today with far less time and with far less skill than in the past. Yet our payment system continues to set fees for these services at very high rates.

Representative SCHEUER. Excuse me, Dr. Ginsburg. You said far less time and far less skill. Can you elaborate on that?

Dr. GINSBURG. I think what I meant is that initially for cataract surgery only the most highly trained, most skilled ophthalmologists could perform the procedure, but as learning took place and as technology passed, it became available for a much broader range of physicians to be able to perform the procedure with great confidence.

Representative SCHEUER. It is mostly done by these specialists in eye care?

Dr. GINSBURG. Oh, yes. The procedure is only done by ophthalmologists. The point was just that often when a procedure is new that only a handful of physicians are capable of performing it, and as a procedure becomes more commonplace, more of that specialty can.

INCENTIVES FOR COUNSELING AND COMMUNITY ACTIVITY

Mr. ETHEREDGE. If I could just add one point. We've been talking about the importance of physicians having time to talk to patients in their office. We also need to look to physicians to get much more involved in our health care system, in designing and in improving the system.

American health care can be quite good on individual services. But it keeps falling down on infant mortality, on drug education and all these other things where people fall through the cracks. I would like to make sure in designing our payment system that we pay an adequate income—or even directly compensate physicians for some part of the time of being involved in the community—so they can help shape these broader programs to address the problems that you were talking about.

Representative SCHEUER. Could you elaborate on that? What do you mean by being involved in the community as time that ought to be compensated?

Mr. ETHEREDGE. Part of that is professional responsibility that we ought to expect from physicians, but many of these issues, like teenage pregnancy, drug abuse, smoking, the failures of a chronic mental illness system, the difficulties that aging people have in trying to find their way among various providers—putting together those systems of care requires time outside a physician's office. We have too often let the physician stay in his office and pay him only for that. We have not asked enough physicians and made arrangements so they could participate in some of these other areas.

Representative SCHEUER. Participate how?

Mr. ETHEREDGE. In shaping programs and taking part in community or national activities. The PRO program is a very good example, I think, of where Government has tried to give physicians an opportunity to get involved, reviewing the quality of care that's being given and improving that care. PRO's have compensated them for the time to get involved.

I think there's merit to get physicians more involved. PRO is an interesting example.

Representative SCHEUER. Is there merit in getting physicians to think more about the——

Mr. ETHEREDGE. About the system, about its problems, about the quality problems in the system, about where it continues to break down, how you put education together with community health centers, together with counseling, materials in physicians' offices, and make the system work better.

Representative SCHEUER. I think you're absolutely right. Nobody could disagree with that, that we need more physician involvement and counseling of communities as well as individual people, counseling the Federal Government and other Members of Congress. We're in real need of that.

Do you encourage that by tinkering with the payments schedules or is there some other way?

Mr. ETHEREDGE. There are proposals to do some of that through a payment schedule. For example, allowing administrative time or a certain amount of time that a physician wouldn't have to bill that would be part of his overhead activities. Individual payers would be paying fees which would be calibrated to allow a physician some time to engage in these other activities.

Representative SCHEUER. How do we make sure that the physicians will really do that if they're getting paid for it, which I would be happy to have them do, but I would want them to show that involvement and make that contribution. How do we prevent physicians from just accepting the surcharge or whatever it is and then failing to deliver that service which we very much would like them to deliver, whether it's paid or unpaid? I would hate to see an organized surveillance of physicians' time to see how many hours a week they're spending in community activities. None of us want that. But I certainly think we want the results you're talking about.

Dr. Painter, do you have any thoughts on how we can reasonably and fairly compensate physicians for extra time that they spend consulting with patients and consulting with community representatives, government perhaps, how much of this should be compensated, how much of this is sort of a citizen's duty as lawyers work pro bono and business people work pro bono on nonprofit organizations and nonprofit programs? How do you parse this all out and encourage real physician involvement in their neighborhoods and in propagating the kind of enlightened health behavior that we're talking about and encouraging it?

Dr. **Painter**. First, I would reemphasize in terms of the patient in the office the need for flexible coding. If you spend a lot more time in educating the patient, like in a difficult or a complex case, then you should be allowed not just to have a routine visit but some type of extended visit that would recognize the difference in time commitment. I think that sort of activity would be important.

Second, we feel that more and more of the physicians are becoming aware—we always have had, of course, community obligation—of their role in the community. More and more the county medical societies and the various service organizations that exist in communities are providing good ways of shaping community feeling and education, and certainly there is a move throughout organized medicine to encourage physicians to get out there and be a part of the program.

I think to the degree that they have interest and time, certainly many physicians participate. One of the attractive things about having an AIDS education program nationally and trying to inform our physicians to become the teachers across the country is that it does involve them. It involves them in going to schools. It involves them in going to service organizations. It involves them in many other educational activities. In the same way, of course, as we've talked about, with the coalition on adolescent health and other initiatives of this kind, physicians are getting more involved in the community.

Mr. **Webber**. Mr. Chairman, could I comment on this issue?

Representative **Scheuer**. Yes, Mr. Webber.

Mr. **Webber**. Lynn gave a plug to the PRO program and I appreciate that, Lynn. I didn't pay him off for that. But I do believe in——

Representative **Scheuer**. Did he read it the way you wrote it?

Mr. **Webber**. Almost. [Laughter.]

I do believe that the medical review process can be an appropriate vehicle for physicians to get more involved outside of direct health care delivery.

We have an incredible number of physicians involved in the review process, both through second opinion programs reviewing medical records and now interacting more directly with patients as well. Consumer representatives sit on PRO boards, so there's an active interchange at the policymaking level for review organizations. PRO's do respond to written patient complaints about quality of care. And I might add that physicians, although the sums are not great, do get reimbursed for the time they spend evaluating quality and appropriateness of care through the PRO program. The individual reviews that they conduct, their activities at the board level, are reimbursed.

So I do think the medical review program is another opportunity for physicians to get involved.

COST EFFECTIVENESS AND QUALITY OF HMO'S

Representative **Scheuer**. Mr. Webber, you heard Dr. Dragalin say a few minutes ago that HMO's have about half the number of hospital days per thousand patients then other kinds of treatments, and that their hospital stays are about a third less.

Now does this speak to the cost effectiveness of their system or does this speak to the fact that in some cases they may be providing less health care to patients who might benefit from more hospital admissions, more days, higher average day stay? What's the mix?

Mr. WEBBER. Well, I think as a general rule, certainly the experience of PRO review has been, it's the organizational management structure of an HMO that emphasizes ambulatory care over inpatient hospitalizations which is the reason for their reduced hospitalizations.

So I think it's more the management structure. Obviously, there will be individual instances where there has been too much of an emphasis on ambulatory care.

Representative SCHEUER. In other words, where ambulatory care or where the absence of diagnosing with perhaps some sophisticated treatment or high-tech treatment wasn't just a cost saving but may have been done at a cost of diminishing the amount of health care that patients should appropriately have received?

Mr. WEBBER. Yes. And let me say that those are very rare instances based on our experience and that ultimately underservice to a patient within an HMO is going to lead to the need for more intensified, more expensive care over time. So in philosophy it doesn't make a lot of sense for an individual HMO to undertreat.

But again, there are individual instances and that is why I think we need oversight. HMO's also need to develop their own internal quality assurance systems to make sure that there aren't shortcuts to care.

Dr. DRAGALIN. I just wanted to add——

Representative SCHEUER. Let me just ask you a question and see if you can answer it, after you make whatever remarks you have on your mind.

The HMO model is very, very appealing. It seems to be cost effective according to the figures you gave. People seem to be pleased with it.

Why apparently has it peaked out at about 10, 11, or 12 percent of the patients around the country? Why haven't market forces and consumer satisfaction forces sort of led it upward on a gradual increase of their hold on health care consumers. Health care costs seem to have gone up inexorably. Why hasn't there been a constant rise of health consumers who opt to select this modality when it seems so appealing in its face?

Dr. DRAGALIN. Well, first of all, there has been a continual increase in HMO membership across the country. It's not as it was in the first half of this decade, but it continues to increase.

Representative SCHEUER. I'm wrong in thinking that it's sort of peaked?

Dr. DRAGALIN. It hasn't leveled off. For example, just in our own programs in the Prudential, we've gone from 450,000 to 1.4 million in the past 2 years. And I'm not trying to single us out as being particularly successful because other large HMO vendors have had similar increases.

One of the problems that we have from a sales point of view, if you will, to large employers is the problem of balancing the cost containment, cost efficacy and quality value to the employer of a well-managed HMO versus total access on the part of the employee. Obviously, in the fee-for-service sector, the employee can go essentially wherever they want to go for their health care, whereas on the HMO side they are restricted to selected providers and selected hospitals.

One of the ways the Prudential and other major corporations have worked around this is through an option which allows the individual beneficiary to go outside the system if they wish without losing 100 percent of their benefits. So that they might lose 20 or 30 percent of their benefits and then be able to select whatever physician or hospital they wish to select.

And that product, if you will, that option, really has been selling quite well to a number of corporations.

FINANCIAL INCENTIVES FOR HMO'S

Representative **Scheuer**. Can you think of any changes in the reimbursement system that would encourage the growth of HMO's? I think from society's point of view it's an attractive, sensible, socially good system. What could we do in terms of the reimbursement schedules or anything else that would make HMO's more appealing?

Dr. **Dragalin**. Well, we've found capitation to be quite satisfactory in a number of ways, certainly in a number of our plans. We're looking forward to the advent of the relative value scale because we still pay physicians on a negotiated fee-for-service basis even sometimes within the capitation system where the group itself is capitated and then the group pays the physician individually for their services. So we really also would like to see the realignment that we hope is coming of primary care services versus specialty services.

And also, we wanted to point out—and this is certainly true from our perspective, that indemnity premiums, in spite of the cost containment that we are trying to install—indemnity premiums continue to go up at rates of 20 to 30 percent, whereas HMO premiums go up at half or less that rate throughout the country.

So I think the financial incentives and the system of care within HMO's is working reasonably well throughout the country.

Now what we have is a marketing job to convince large employers that indeed this is an appropriate way to go.

Representative **Scheuer**. What about individual health consumers, families throughout America?

Dr. **Dragalin**. The same statement holds true for their premiums.

Representative **Scheuer**. In terms of reaching out in terms of marketing programs?

Dr. **Dragalin**. Exactly.

DETERMINING FEES

Representative **Scheuer**. Dr. Painter, as I understood it, you said that the payment rates should continue to be a consideration of health providers and health consumers. Did I understand you correctly?

Dr. **Painter**. Yes.

Representative **Scheuer**. In many cases, if not most cases, health consumers are not financially impacted or at least not impacted directly by a particular instance of health care. The people who are impacted or the group that's impacted are the health payers.

Why shouldn't our system provide for health payers like the big insurance companies, like Blue Cross-Blue Shield, medicare, medicaid, to have a bigger say in setting fees? Why shouldn't the health payers—the institutions that are the health paying community—why shouldn't they have not only a greater role but a major role in determining physicians' fees. And I'll say the day after tomorrow, hospitals' fees, too.

Dr. **Painter**. First, when you come to see me as a physician I'm dealing with your illness, your problem, prescribing what you need, and having an opportunity to prevent some problems down the way. So when we meet and talk, if I'm giving you the explanation you need, then I tell you these are the activities and this is the procedure and here's the reason why. So that activity in effect becomes a contract between you and me, if you agree to follow what I recommend.

I think, too, then what we see is that if you can reach an agreement with your patient, then obviously there is an implied contract between the two of you.

There are the third party payers, if you wish to characterize insurers and so on, with whom the individual has a contract in order to pay a portion, or in the case of capitation whatever the agreed upon fee is. As a consequence, you and I talk and agree and they pay whatever they want to pay as a part of the contract between you and the third party.

Then the question is what would permit me—if the third party didn't cover my entire fee—to consider your economic circumstances and decide whether to accept that payment in toto or to bill what I normally would be charging for that particular circumstance. Certainly when you're in a situation where I voluntarily contract with an HMO at a discounted fee, or whatever the agreement is for the payment, I have an agreement with them in which I agree to accept their particular fee as the amount I'm willing to accept for the service I provide for the beneficiaries in the HMO.

I think our point is simply that the physician should retain the right to discuss with the patient what the charges would normally be, to consider that patient's economic circumstances, consider whether or not that person belongs to a managed care system and whether you're a member of the managed care system, and then arrive at a reasonable decision as to whether to bill the individual because the fee agreed to by the insurance company doesn't cover what you're going to have to charge.

Representative **Scheuer**. Well, from my own experience with medicare people, elderly people who are living on reduced incomes, as well as medicaid people, this factor of physicians charging fees in addition to what they might have received from the Government or from the insurers, this is a troublesome phenomenon. I don't want to get into it this morning because it's late and you've all been extremely patient and we're probably going to have a rollcall vote in about 6 or 7 minutes.

Dr. **Painter**. Could I respond very quickly to that comment?

Representative **Scheuer**. By all means.

Dr. **Painter**. One of the things that we're concerned about too is the economic circumstances of the individual. The AMA has urged all of the individual physicians across the country to consider the economic circumstances of somebody who is obviously disadvantaged economically. When caring for a medicare patient, certainly they should take that into consideration when deciding about assignment or no assignment, or balance billing.

In fact, what we've done is to work with our State medical associations across the country to get them to set up a voluntary system in which the State association works with senior citizen groups to identify a level below which the elderly person would be considered as not being able to afford a balance billing and then to issue them a card where the doctors then would honor the card as identifying that individual as not having the means to pay an additional amount.

We feel that this is an important recognition of just the problem you're talking about. In most of the State associations across the country, there is a very active pursuit of this.

The individual doctors by and large do take into consideration the economic circumstances of their patients. I know in Houston, for example, several years ago when we had that economic downturn, so many people were losing their jobs and had no insurance. Then, it was not only just the indigent and the elderly who could not pay. but there were a lot of good working people who were temporarily without jobs. Our county society, for example—and it was copied all over the country—simply said, "Come in. We'll take care of you anyway at no charge."

So there's a recognition and a response among the medical community that needs to be thought of when you have these sorts of considerations. I think we are very sensitive to that issue because after all I'm taking care of you and I want to know what I can do to help you.

Representative **Scheuer**. I'm sure you're sensitive and I'm sure that AMA has put the word out and I'm sure in a clear majority of cases that sensitivity is implemented and the problem is solved to everybody's satisfaction.

What we hear about as Members of Congress are perhaps a minority of cases, and maybe a small minority of cases, where the patient—perhaps he's not indigent, but the patient is operating on more limited resources in their elderly years than they had been before—feel they've been put upon, feel that there's been an injust burden placed upon their own personal incomes when they thought they were being insured. But that's, as I say, a subject that we don't have the time to go into this morning.

Well, I'm going to ask a last question, but before I do, do any of you have any further comments or thoughts you would like to express on anything that's been said this morning?

SYSTEM CONSTRAINTS AND QUALITY

Dr. PAINTER. One more comment on the quality issue. One of the concerns among doctors—about 80 percent of the doctors that we have surveyed, and that's members and nonmembers—and almost half of the patients that have been surveyed feel that a lot of the constraints that are being placed on the care system are adversely affecting the quality of care and beginning to show that the quality may be diminished.

The AMA is very concerned about this, particularly in light of the design of the payment system and its impact. Let me just quickly say that we then sought to define quality and have come up with a number of elements. We have applied those elements to the current systems for measuring quality and believe that we are beginning to see that they are effective.

We now have developed an office focused on ambulatory care particularly and the sort of review that Mr. Webber is talking about. We are looking at developing the tools doctors need to examine the performance of others in peer review, looking at particularly the outcome measures and the way in which we can use these.

I would say to you also that under the Health Care Quality Improvement Act we have joined with the Federation of State Medical Boards to respond to the clearinghouse concept with a proposal to be considered by HFCA. This clearinghouse would then document when you have an adverse decision about a doctor convicted of medical liability and other things that may represent problems. This information would be available so that if the doctor moved from one place to another, we could then transfer the information and respond correctly. This is pending consideration at this time.

Finally, the AMA is a part of the Joint Commission on Accreditation of Health Care Organizations which does go in and review the quality of hospitals and health organizations. The AMA certainly has been supportive of that major effort with the idea that we do document the quality in the institutions and organizations across the country.

POLICY RECOMMENDATIONS

Mr. ETHEREDGE. Mr. Chairman, I would just want to close with mentioning three things we have discussed today that could form an agenda for the Federal Government.

The first is fee reform. The Physician Payment Review Commission and others are looking at medicare. As I pointed out, medicare fee reform in the past has led the Nation and has become a prototype for future directions. So this reform debate and the decisions that Congress and the Federal Government will make are going to be key in shaping the future of physician payment reform.

A second Federal implication of what we have been discussing is in data. One of the reasons that we have uniform and good hospital data in this country is because the Federal Government standardized the hospital reporting form for hospitals in the UHDDS and the UB-82. We need a comparable initiative on the Federal level in standardizing ambulatory care coding and reporting for quality of care research, economics research, and so we can know what's going on. That's a second area, in terms of standardizing the data and reporting system nationally, that the Federal Government could address.

The third area relates to quality of care research. That's a subject that's so complicated and so expensive and so important that no one else is going to pursue it unless there is adequate Federal funding.

Those are three areas where expanded Federal initiatives would really help address the problems we've discussed this morning.

EFFECTS OF MEDICARE ON PRIVATE MARKETS

Representative **Scheuer**. Mr. Etheredge, you have suggested in earlier writings and speeches that you've made that the fee schedule and payment practices that we adopt for medicare actually have a proliferating effect and could stimulate competitive forces that would moderate fee increases in other sectors of the health care system.

Mr. **Etheredge**. Absolutely.

Representative **Scheuer**. Do you think that that's going to happen and do you think that the fee schedules developed by the Physicians Payment Review Commission will help move us in this direction?

Mr. **Etheredge**. I very much hope so. It was certainly the case 20 years ago, when medicare was adopted, with the current payment system. In fact, I think it not only should happen, I would hope that Congress could encourage that kind of process.

Representative **Scheuer**. Then do you think that these changes should be implemented in other sectors of the health care system?

Mr. **Etheredge**. Assuming that they are the right ones. I would have to see what comes out.

Representative **Scheuer**. Well, the newly developed reimbusement mechanisms that they're going to recommend, can those principles be adopted in the rest of the health care system?

Mr. **Etheredge**. I think so. I'm not sure I'm in favor of a mandate to do it because there might be lots of different circumstances. But I think it's important, even to be effective in medicare reform, that those changes also be agreed upon broadly as something we want to do as a nation.

For example, if medicare were to cut fees in certain surgical procedures by a substantial amount and the private sector didn't follow suit, we could wind up with a dual class payment system. We could have problems with access, feelings among medicare beneficiaries that the system that they had was unfair or second rate in some way, and perhaps more overcharging of medicare beneficiaries. So I would hope that voluntarily the HIAA, the Blues, other insurance companies, the medical profession and others could all move in the same direction. If so, we could reshape the payment system to address these concerns without having government regulation of the entire system.

NEED QUALITY ASSESSMENT AND CLINICAL GUIDELINES

Representative **Scheuer**. Mr. Webber.

Mr. **Webber**. I'd like to, in summary, go back to your opening remarks and say that the real critical issue is are we getting value for our increasing investment in the health care system? In order to answer that question, I think, as Lynn has just mentioned, we need to invest in quality assessment tools to really determine what is value and whether we're getting it. Lynn mentioned data that are critically important and he mentioned outcome studies, and I would like to add to that list the need to develop more explicit clinical guidelines to help guide physician clinical decisionmaking.

If we do all that and it will take a sizable investment—this needs the participation of organized medicine, we need to put research dollars in, we have to get the academic community involved—I think it holds out the promise of narrowing that tremendous range in practice use that we see around our country.

Although I would like to add the caveat that it will also mean that in some communities we're going to find that there's terrible underservice and we're going to need to increase health care expenditures in the poor communities of New York City of which you know well, and rural communities in America. There's a need to increase access to care appropriately in this country at the same time that we reduce inappropriate use.

Representative SCHEUER. That's absolutely right. And just to footnote that, we all remember that there are about 37 million Americans who have no health insurance, whose access is severely limited, and there are about 70 million others who are underinsured and whose access at particular times for particular health problems may also be limited in ways that affect their health results.

Dr. DRAGALIN. I just wanted to also point out regarding quality assurance that a number of HMO's currently have quite sophisticated data based quality assurance programs in place, some of which are actually outcome based, and at least three major HMO chains—the Prudential, the Blues and CIGNA—have all voluntarily sought or are all voluntarily seeking accreditation by outside accrediting organizations such as the Joint Commission on Hospital Accreditation, to assure that what they say they're doing with respect to quality really is happening.

ENCOURAGING HEALTH PROMOTION

Representative SCHEUER. Well, now I will ask my last question and that is, what changes do we have to make in our reimbursement system and our health care system itself to encourage people to take better care of their own health outcomes in all the ways that we've described?

Dr. GINSBURG. If I could say something, I think the country has done very well over the past 10 years in having people take better care of their health. Certainly a lot of statistics on the improvement in health status are often attributed to better health habits. There has been an increase in public information. I know the Federal Government has done a great deal on the issue of smoking. So in a sense, I think we can point with some pride to the fact that we have made progress. Certainly a lot more needs to be done. I don't see anything obvious about reforms in the payment system for services being a key component of encouraging people to take better care of themselves. Perhaps other tools, mostly education, might be more useful.

Representative SCHEUER. You're absolutely right. There have been enormous changes in behavior—exercise, people jogging about, you didn't see that kind of thing 15 years ago. Diet, if you don't believe there's been a change in American diet, ask the meat producers, ask the egg producers, ask the dairy industry. People have altered their diets significantly to avoid the cholesterol problem, high fat foods, high salt, high sugar. They are learning. And what we want to do is encourage this. Among middle class, educated people, there's been a phenomenal change in diet. Among people who are not part of the information loop, or don't read as much, there's been less change.

For example, this has affected minorities. Blacks have a far higher rate of heart trouble, stroke, and so forth coming from high blood pressure. They can have a lifetime of high blood pressure and because high blood pressure has no symptoms, you don't feel it, it's odorless and tasteless, so to speak, they don't get checkups and this impacts their health outputs obviously and it hurts the national health too. It's bad for society that they aren't engaged—that all segments of society aren't equally engaged in preventive health behavior and taking charge of their own health outputs.

As I say, middle class, educated people, who are part of the information loop, have made enormous strides in changing their behavior. How do we expand that? That's the big question. Nobody could underrate the progress that's taken place. We're thinking of ways, for example, we could encourage physicians to spend more time just talking, communicating with their patients. That should be done and it isn't being done sufficiently. Physicians are harried, overworked, under stress. They have all kinds of high technologies sitting around the office that are lying fallow. I suppose they think when they are simply chatting and talking to a patient their investment in that high technology is not paying off.

But how do we tread our way through all of this mine field of problems and obstacles and induce physicians to spend more time doing what is probably the most important thing they can do, which is, namely, just talking to their patients. Any comments?

Dr. PAINTER. I would second what has been said. I'm not sure that the payment mechanism, other than flexibility in the office visit area and perhaps other areas, is important. Certainly with the education that is happening to young physicians coming out of the medical schools, they are much more trained in the communications skills of interaction with their patients.

Representative SCHEUER. And they are much trained, aren't they, in some of the subject involved in preventive health care, like nutrition? Aren't they getting much more training in the importance of good nutrition than doctors did 30 or 40 years ago?

Dr. PAINTER. I think that emphasis on prevention of disease is a major part of what they do in addition to diagnosing and treating. This is something that they come out much better prepared on.

One thing that I think influences the individual who is the recipient of health insurance is often the incentive discounts for good behavior. As you know, there have been a number of health insurance groups that have explored the approach that if you don't smoke you get a discount of x percent because you cost less.

The final part of that is the corporate activity. I think we need to remember that the corporation, when it invests in people in terms of their skills, is now very much more concerned than they ever were before about that monetary investment. To the degree that they have an atmosphere in which they are encouraged to provide these sorts of resources for their people, it will certainly speak well.

Mr. ETHEREDGE. Congressman, I think that there may be a fruitful area in paying for primary care, nurse practitioners and visiting nurses and physician assistants. These are individuals who are trained to do exactly the kinds of functions you've outlined and certainly don't require all the high training of the physician. Payment reforms should make sure that we adequately compensate people like advice nurses in HMO's and nurse practitioners who specialize in this kind of thing. That needs to be brought into reform.

Representative SCHEUER. I quite agree with that. Just to extend your remark a little further, let's say these people you're talking about—the doctor assistant, the nursing assistant, the nurse practitioner, they make $25,000, $30,000, $40,000 a year, perhaps $50,000 a year, couldn't they deliver many of the health services that doctors now deliver just as effectively and competently and more cost effectively than doctors now do?

In other words, the doctor expects to net—doctors do net after all their costs I think you said $115,000 a year and probably their gross income was $150,000 or $160,000 a year or more. Couldn't we economize on that precious, very high cost resource of physician skills by parceling out under a physician's supervision much of the health care that takes place that does not require 4 years of college, 3 years of medical school, a couple of years of internship, and so on and so forth? Couldn't a significant proportion of health care services be provided by doctor assistants, nurses, nurse assistants, just as effectively and perhaps even more effectively in that they have more time to spend with patients and they aren't driven so much by the clock? Wouldn't that be a way to perhaps even provide greater communication with patients than now takes place by people who have been adequately trained to communicate preventive health care concepts at a far lower cost of delivery?

Mr. ETHEREDGE. I agree with you completely, Congressman. The direction and the practical implication of that is that fee reforms should begin to pay more on the basis of time, perhaps time of different kinds—time spent doing procedures versus time spent counseling. Then you could begin to fairly compensate the physician and the physician's assistant and to move away from the system we have now where we call everything a procedure that only a physician can do. We overpay those procedures and underpay the counseling. So I think the direction is right. That would be the way to move.

Dr. DRAGALIN. I wanted to make a point that in a great many of our HMO's we make heavy use of paramedical personnel and nurse practitioners, physician assistants, and nurse midwives, and in our quality assurance patient satisfaction surveys the patients are by and large very, very satisfied with the care—in fact, in some cases, more satisfied with the communication that they receive from those folks versus the communication that they receive from busy practitioners. So it's a very successful approach.

Representative **Scheuer**. Do you think that's true of the whole health service system, whatever the individual system?

Dr. **Dragalin**. As long as there's close monitoring of that person's action by a licensed physician.

Representative **Scheuer**. Right, absolutely. Any further comments?

[No response.]

Representative **Scheuer**. Well, you have been here just under 3 hours and I want to thank all of you for a very stimulating, thoughtful, constructive, and enlightening hearing. I'm sorry that more of my colleagues didn't benefit from it, but as you know we're pulled from 360 degrees of the circle and it's impossible for us to be at more than one place at one time.

I thank you very much for an excellent hearing.

[Whereupon, at 12:20 p.m., the subcommittee adjourned, subject to the call of the Chair.]

THE FUTURE OF HEALTH CARE IN AMERICA

THURSDAY, MAY 19, 1988

Congress of the United States,
Subcommittee on Education and Health
of the Joint Economic Committee,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m., in room 2325, Rayburn House Office Building, Hon. James H. Scheuer (chairman of the subcommittee) presiding.

Present: Representative Scheuer.

Also present: David Podoff and Dayna Hutchings, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE SCHEUER, CHAIRMAN

Representative Scheuer. Good morning.

Today's hearing, the fourth in a series of hearings on the future of health care and health care costs in America, is designed to evaluate payment systems for hospitals. The day before yesterday, we had a hearing on payment systems for doctors.

The testimony during our first three hearings has clearly shown that while health care costs continue their seemingly inexorable increase as a fraction of GNP, year after year with monotonous regularity, there doesn't seem to be any emerging consensus as to how we should cope with these costs and how we can best constrain them.

On the one hand, there is a growing recognition that we cannot afford to continue a systematic structural annual increase in health care costs. On the other hand, there is genuine concern that a reduction in the growth of health care expenditures could possibly result in a decrease in the quality of health care, or less access to health care for millions of our citizens.

Comparisons with other OECD countries indicate that they spend a significantly smaller percentage of their GNP on health care with no demonstrable, provable, identifiable reduction in health status or health outcomes.

On an average, we spend close to 12 percent of GNP on health care and the OECD countries average about 8 percent. So we spend 50 percent more than they do as a percentage of GNP and, in absolute terms, it is far more than that.

So all this suggests that we can adopt modifications or reforms in our health care system without affecting quality or access, and many of us feel that we must.

The focus of many of these reform efforts have been on reimbursement methods for health care services. These reforms include a movement away from fee for service through HMO's, and the establishment of a prospective payment system, so-called PPS, for medicare hospital services.

In addition, consideration is being given to modifications in the physicians' payment system so that fees would be based on a relative value scale, RVS. We will have to keep up with all these new acronyms related to the resource cost of providing services.

These and other reforms and reimbursement methods are designed to promote more efficient, more cost-effective use of our health care resources, and it is hoped that through modification in payment methods, as well as other changes, we can change incentives, and change the direction of our health care system from sickness care to wellness care, from illness care to preventive health care.

By encouraging payments for primary care through appropriate payments, for example, for consultation with family physicians, for talk, for communication, probably the most valuable time a family physician can spend with his patients, we hope that we can prevent illness rather than just treat it. We hope we can promote wellness through preventive health care consultations.

These reforms pose important challenges and far-reaching complications. On Tuesday, we learned about the vital importance of efforts to ensure that quality of care and access to the system do not suffer as we alter payment mechanisms for physicians.

We also recognize that reforms of the payment system for medicare, which account for about 25 percent of hospital expenditures and about 20 percent of physician payments, will spill over, so to speak, into the way we pay for medical services in the rest of the health care system.

So with all of that in mind, we turn to the hospital sector where modifications in payment methods are already underway. Among other topics, we will hear about the effects of the prospective payment system, the PPS that I just mentioned, on expenditures and on the quality of care and the mix of service between inpatient and outpatient care.

So we are going to have a very interesting and stimulating panel this morning and we hope that you will chat with us informally as if we are in a living room together. Liberate yourselves from your written prepared statements. They will all be printed in full in the hearing record.

We would like to make this more of a skull session than formal testimony that you read with all the soporific and somnolent effects that can generally be predicted. Let me express some of the sentiments that we heard from the first day of hearings that would tend to wake us up if we were dozing off. These were statements straight from the heart.

Joe Califano, former Secretary of then-HEW, Health, Education, and Welfare, questioned "the continuing viability of the health care system unless the stunning variations in treatment for common ailments are reduced."

"Medicare spent an average of 70 percent more for each beneficiary in Boston than it did in New Haven," Califano said.

"The political system has to free itself from the domination of health care providers," all of us, all of you, and all of the people that we heard Tuesday. "It has to free itself from the domination of health care providers to have any hope of restraining costs."

Mark Freeland of HCFA, the Health Care Financing Administration, says that "steadily rising health care costs have increased the pressure on Congress to change the system." He said "the costs of employer-paid health benefits have contributed to production cost increases that are pricing U.S. products out of world markets."

The increase in health care costs to corporations is providing, in my own words, paraphrasing him, such a competitive disadvantage to U.S. firms, that they are helping to prevent the United States from being an effective global competitor. That is a very serious charge and it comes from a very responsible person.

George Scheiber, also of the Health Care Financing Administration, HCFA, presented statistics indicating U.S. hospitals are the most expensive in the world, without any proof that they are better than the OECD hospitals that operate at a much more cost-effective rate.

Comparisons were made with Canada, France, Germany, Japan, and England. The average cost per day in U.S. hospitals is $360 compared with an average of $175 for these five countries. That is over twice as much per day. Expenditures per admission were $3,450 in the States compared to $2,760 in the five-country average, the five OECD countries.

Dr. George Silver, professor emeritus of Public Health at Yale, told us European countries provide better value for the money spent on health care. This is enough to wake us up.

He said the U.S. health system is burdened with an oversupply of resources, overuse of technology, professional glut, and overpayment for services. Now, that is a very challenging series of statements about the essential system by which we deliver health care in the United States both through physicians and through hospitals.

I suggest, Mr. Anderson, that we cannot write this off—your phrase—by "the revealed preference of the American public." I must say I thought a lot about that phrase. We have heard a lot in the last few weeks about the stars, how stars in their course are guiding us here on Earth. I don't know where the revelation comes from. I am an Aquarius, and the President is an Aquarius. We happen to have the same birthday. I share his stars, but I haven't received many of the messages he has received. [Laughter.]

I certainly haven't received any message that "cogito ergo sum"—remember from your high school Latin, "I think, therefore I am," or, paraphrasing that, "it exists, therefore the American public will it."

I am going to ask you to put a little meat and potatoes on the skeleton of that statement of yours that this is the revealed will of the American people. I think that there are a lot of things that exist in the American public systems, but the fact that they are here doesn't mean that we want them.

Shakespeare told us: "The fault, dear Brutus, lies not in the stars but in ourselves."

I would like you to explain to us—this will give you a little chance to think about it before you start giving us your testimony—where does this derived will of the American people come from? How is it expressed?

Here are some professionals of great note. They are the equal to the excellence of this panel in every way. You are all superb professionals. They were when they testified here. They are very highly regarded. You are all very highly regarded. They don't seem to think there is any expressed will of the American people for this kind of ineffectiveness, for this kind of pitiful cost effectiveness whereby we are spending 50 percent more of our GNP and twice as much for a hospital 1-day stay as other countries with totally comparable and, in significant ways, superior health outcomes.

Many of these countries surpass us now in life expectancy at birth, in life expectancy at age 65 and surpass us in infant mortality rates. There is no indication that because we spend twice as much per hospital day that we are getting twice as good care or any better care.

I think we are all going to be interested in your explanation, Mr. Anderson, of this marvelously interesting phrase that you used.

So, with all of that, I simply hope that you will address yourselves to a feeling on the part of many Members of Congress and of many members of the public that we have to get a better bang for the buck of our health care dollars expended. We must have a system that is leaner and meaner, more effective, more productive, less wasteful, less money spent on bureaucracy, and other nonhealth expenditures.

There is a feeling of disquiet out there. We have many competing needs in our society in addition to health. We are drastically underspending on education. As I said the other day, we have between a one-third and a one-quarter rate of adult illiteracy in our society. This is a crippling and disabling factor for our society. People who are illiterate either have failed in our education system or our education system has failed them. But remediating that condition is difficult and expensive, time consuming, and is going to require a lot of commitment.

We have other needs. We need more postdoctoral fellowships at the National Science Foundation. We need to be training more mathematicians, scientists, and engineers. Japan, with a country about half our size, is producing significantly more professionals in math, science, and engineering than we are. We have to do better there.

So I think none of us can be complacent that the American people are perfectly satisfied to see the percentage of GNP that is spent on health go up year after year after year with monotonous regularity.

Ok. I have talked enough. Mr. Anderson, the floor is yours. There are six witnesses. Why don't each of you speak for 7 or 8 minutes, and then I am sure we will have some questions and I will reserve the right to interrupt from time to time to ask a question even before all of you are finished.

So let's hear first from Gerard F. Anderson, director of the Center for Hospital Finance and Management, Johns Hopkins University.

We are delighted to have all of you here. We are delighted to have you here, Mr. Anderson. You gave us a few chuckles and a few quizzical moments last night, so we are eagerly looking forward to hearing from you.

STATEMENT OF GERARD F. ANDERSON, DIRECTOR, CENTER FOR HOSPITAL FINANCE AND MANAGEMENT, JOHNS HOPKINS UNIVERSITY

REVEALED PREFERENCE OF AMERICAN PUBLIC

Mr. **Anderson**. I will try to follow that entertainment up with some testimony this morning. But I want to talk about our three conclusions, the third of which you have already discussed.

The first one is that despite all the recent initiatives to control hospital costs, hospital costs continue to rise significantly above the rate of inflation. I have worked in this area for 10 years and have worked on the medicare prospective payment system, as well as the hospital cost containment legislation that President Carter put together. I think that what we are seeing is an effort to propose a whole variety of different initiatives and found generally that the American public hasn't preferred—when we proposed a variety of different initiatives, some have been that the Congress has decided they don't want it, and sometimes it has been the American public.

Representative **Scheuer**. How does the American public talk to you?

Mr. **Anderson**. Well, the American public doesn't talk to me, but the American public does in a number of ways present their preferences.

If you look at the State of Oregon right now, for example, they have made a choice not to pay for certain very expensive technologies; that is, heart transplants and liver transplants, in their medicaid program. The State of Oregon was very courageous in making this choice, indicating to us that the benefits just were not as great as the costs associated with it.

There was a major hue and outcry among the Oregon residents, both the medicaid and nonmedicaid residents, expressing the desire that those services be covered. We want the medicaid recipients to have access to those services.

Representative **Scheuer**. And what was the decision of the legislature?

Mr. **Anderson**. The legislature decided not to pay for them. The public responded very vehemently against that and decided that indeed there should be ways to pay for those services because both the general public and the medicaid recipients wanted those services covered.

Representative **Scheuer**. And what was the outcome?

Mr. **Anderson**. The medicaid program decided not to pay for them, but as a result of that decision, there is much flexibility regarding ways to pay for those services.

Representative **Scheuer**. Through medicaid?

Mr. **Anderson**. Not through medicaid; through the private sector.

Representative **Scheuer**. This is a very, very important point, the whole question of health rationing. That was an attempted means of health rationing.

In England, as you know, you can't get kidney dialysis under the National Health Program if you are 55 or over. Now, there are an awful lot of people in this country that would object violently to that, and they would fall into two groups: those people over 55 and those people under 55. The over-55's would feel, if I need kidney dialysis tomorrow, by golly, I want it. The under-55's would say, I am not 55 yet, but I am going to be very soon, and in a year or two, or five or ten years when I hit 55, by golly, if I need kidney dialysis, I want it.

Mr. **Anderson**. Or I have a parent who needs dialysis.

Representative **Scheuer**. Exactly. Precisely.

So how have the Brits been able to get away—after all, it is a parliamentary democracy—how have they been able to get away with maintaining that very harsh, very draconian method of rationing? I have never been able to understand, except that they aren't as well organized from the point of view of the consumer groups, the elderly groups, the gray power, so to speak, why that is accepted.

I think if you set a limit of 80 or 85 in this country for health care kidney dialysis, you would still run into criticism. But 55, my goodness, blood would be flowing on the streets.

So one question that I am going to ask the whole panel at the end is what kind of innovative approaches do you have for some kind of rational and reasonably acceptable means, acceptable to the public, means of rationing health care, especially high-cost, high-tech health care.

When I mentioned to you that Dr. George Silver, a very distinguished health professional, said that we have an overuse of technology, he must have thought—perhaps we ought to ask him—how are we going to limit that overuse?

What are some of the things that we can do to limit this overuse? Rationing is one. There may be some other changes that we can engage in. That is a question I am going to ask the whole panel at the end.

OK. I am sorry that I interrupted, Mr. Anderson.

Mr. **Anderson**. Let me give you a second example of this revealed preference, as well as some possible courses of action. We are currently studying a contrast dye which is used in radiology. We chose to study the contrast media because we thought it was an example of a technology which had very limited appeal to the general public.

This dye does the same thing as the dye it replaces. Unfortunately, it is 20 times more expensive than the dye that it replaces. It has exactly the same diagnostic and therapeutic value. The difference is the adverse outcomes associated with the current dye. It has more pain upon injection, or a higher probability of having pain, and a higher probability of nausea. It is 20 times more expensive. It would cost the Johns Hopkins Hospital about $2 million per year to do it.

When physicians and patients are asked whether they would be willing to pay an additional $200 or $300 per patient per case, uniformly they say yes; that indeed they are willing to pay for it.

Representative **Scheuer**. What are the benefits of that?

Mr. **Anderson**. The benefits are less of a probability of pain upon injection; approximately 30 percent of the patients have pain upon injection. It is a transient pain; it lasts only about a minute or two, but it can be very severe.

Representative **Scheuer**. Does it reduce the pain of the injection?

Mr. **Anderson**. Yes, in about 30 percent of the cases.

Representative **Scheuer**. And what are the others?

Mr. **Anderson**. The other is a higher probability of having nausea if the less expensive dye is used.

Representative **Scheuer**. I see. So it prevents pain and prevents nausea.

Mr. **Anderson**. And it is 20 times more expensive.

So the choice that the hospital administrator and the radiologist have is, which dye should be used? The American public, in a survey and in spoken interviews, chose to use the more expensive dye. This one example is a $2 million decison. We chose it because we thought if any technology was not going to diffuse and be implemented into medicines, this one would be it because it has relatively limited value.

However, it is diffusing on a large scale seemingly because the American public wants access to it. The problem is not that there is a lot of unnecessary utilization that people identify, rather it is all these little decisions which have to be made day in and day out, and those are the decisions which, as I look at it, the American public is in favor of.

This is what I mean by the revealed preference of the American public. These kinds of choices are being made every day, and the American public seems to want to have the medicaid person's kidneys transplanted just as it wants to use this more expensive dye.

I would agree with you that on an abstract level there is too much technology in the United States. There are unnecessary hospital beds, but when you come down to practical choices, those practical choices mean that somebody doesn't receive a certain type of service.

It is big things and it is little things that happen within hospitalization. That is the difficult aspect. When we put together the medicare prospective payment legislation, we basically said to the American public that the hospitals will to some extent make the choices for you. We will pay a certain amount to take care of you, and then it is left to the hospitals to make other choices.

The question is: Do we want the American public to make those choices? And that is where the rubber meets the road, I guess.

Representative **Scheuer**. Let me just ask you, you said big things and little things in hospitals. What are the little things in hospitals?

Mr. **Anderson**. I think the osmolar dye that I was talking about is an example of a relatively small ticket item. It is not something to which the Congress is ever going to pay a great deal of attention. It is not something to which the average hospital administrator pays a great deal of attention. It is something, however, that when added with many of these little ticket items, results in a great deal of health care expenditures, a great deal of hospital expenditures.

The problem is that there are many of these issues occurring on a daily basis, and a hospital which doesn't make these choices will tend to be perceived as providing a lower quality of care. I have had many hospital administrators come to me and say that they don't want to buy technology A or techology B, but if they don't, either the physician or the patients won't come to them because they want to have these services available to them.

So, from a competitive point of view, they find that they have to provide these services, and hospitals in competitive markets are the ones that have more of these services, not fewer. So, in responding to the market, they are having to buy more, not less.

Representative SCHEUER. So you are saying, like Pogo, we have met the enemy and he is us. And it is the American people who simply won't accept anything less than what they perceive is the best.

Mr. ANDERSON. As an economist, I can design the right reimbursement system, such as prospective payment system, or an alternative to prospective payment system which will reduce costs. We have seen the States adopt a whole variety of systems to reduce costs. The private sector has developed a whole series of systems to reduce costs. That has been a major set of initiatives during the 1980's.

There have been a lot of initiatives, there have been a lot of actions on behalf of the hospital industry, but as a sum total, when the rate of increase in hospital spending during the 1980's is examined, adjusting for inflation, these initiatives have had absolutely no effect. Hospital costs continue to rise above the inflation rate, between 2 and 4 percent per year.

Representative SCHEUER. And nothing that we seem to try to do to restrain that growth seems to have any impact whatsoever.

Mr. ANDERSON. Nothing has, from an empirical sense, had any impact at all.

UNITED STATES VERSUS OECD HEALTH CARE COSTS

Representative SCHEUER. We have a rollcall vote as you see. I am going to suspend for 15 minutes. When I come back, I am going to ask you one question. That is, how is it that in these other OECD countries where they are just as well educated, in fact where the education level is higher than in our country, they seem to accept some restraints on rising health care costs and are willing to modify their behavior in certain ways; whereas in this country, we have not been able to achieve that?

All right, we will suspend for 15 minutes.

[A 15-minute recess was taken.]

Representative SCHEUER. All right, we will resume.

Mr. Anderson, you were in the midst of your testimony. Please proceed.

Mr. ANDERSON. You gave me a research question that I need 4 years and a half a million dollars to go out and do a study on, but let me try and do it in the 15 minutes that you gave me.

Representative SCHEUER. I didn't give you 15 minutes, Mr. Anderson.

Mr. ANDERSON. No, not to answer, but to prepare.

Representative SCHEUER. Good.

Mr. ANDERSON. Different countries have different definitions of quality of life and different expectations, and I think this is an issue that is much larger than simply in the health care arena.

We have compared Japan, which tends to be the country against which we compare ourselves these days in the United States. In Japan we are talking about a country that tolerates living in relatively small rooms, in cramped quarters, saving 20 percent of its money and investing it, especially in long-term investments.

In the United States, we are used to large houses, a lot of consumption, minimal savings, and corporations looking on a quarter-to-quarter basis.

Representative SCHEUER. You have just ticked off some of the major flaws in our American economic system and done it very well.

Mr. ANDERSON. And now we are doing exactly the same thing in health care, following the same pattern.

Japan doesn't worry much about defense and a lot of those other things.

In the health care area, Japan doesn't spend much time on R&D and it doesn't spend much time on education, both very costly types of activities in the health arena. They are going to start moving into it, but in the past they haven't done much in research and development. They do a lot more in prevention, again trying to following up long-term investment.

If you go to a Japanese hospital, you would have to provide your own food. They don't provide food services as a normal activity, as part of the hospital in Japan, and other amenities that we would take for granted in the United States are not provided in Japan.

Representative SCHEUER. What other amenities?

Mr. ANDERSON. If you want a private duty nurse, you have to pay for it. They have a lot more services with four, six, eight people in the rooms instead of one or two, and we have about 50, 60 percent of people in private rooms. All of these costs add up in terms of amenities.

And they don't have always the new technologies the United States has.

Representative SCHEUER. Sometimes they are ahead of us on technology.

Mr. ANDERSON. In the United States we do an awful lot of research and development, and pride ourselves on this through the National Institutes of Health. We are beginning to implement R&D in the hospital, and that adds to the hospital cost.

So if you wanted to reduce cost, you could reduce education and you could reduce research. Every time we talk about prevention in the U.S. Congress, what I hear from the congressional staffers are questions like: What payoff will it have for this year or for next year, much like the corporations here? How will it look in that quarter or in that year? But they don't take a look at a longer term horizon in terms of prevention.

Obviously, the United States would not tolerate things like people bringing in bag lunches to their patients in the hospital. We expect everything to be provided for us in the United States once we get sick.

But we tend to look at acute care as the way to handle illness in the United States as opposed to prevention of long-term concerns. Thank you, Mr. Chairman.

[The prepared statement of Mr. Anderson follows:]

PREPARED STATEMENT OF GERARD F. ANDERSON

"Payment For Hospital Care"

My name is Dr. Gerard Anderson. I am the Director of The Center for Hospital Finance and Management, Co-Director for the Program of Medical Technology and Practice Assessment, and Associate Professor of Health Policy and Management at Johns Hopkins University. I appreciate the opportunity to testify this morning.

In my testimony today, I hope to make three basic points. First, despite all of the recent initiatives to control hospital costs, hospital costs continue to increase at a rate significantly above the overall rate of inflation. Second, hospital productivity has not increased and may have even declined in recent years. Third, the aggregate level of spending and current rates of increase on hospital services may actually represent the 'revealed preferences' of the American public.

Before discussing methods of hospital cost containment, it may be useful to establish a common ground.

- Hospitals consume nearly 40 percent of the health care dollar.
- The United States spent $720 per capita or 4 percent of the gross national product on hospital care in 1986.
- Hospital expenditures increased at an average annual rate of 10.2 percent from 1980-1986 - a rate much faster than overall inflation.

None of these numbers by themselves suggest a problem. There is no consensus that defines either the appropriate level of spending for hospital care or the optimal growth rate for the hospital sector. In fact, in most sectors of the economy a high growth rate is actually encouraged.

The reason why most health economists are concerned about the level of hospital spending is a widespread belief that the costs of providing certain hospital services may exceed the benefits of providing them. The concern is that the level of spending for hospital services may be related more to peculiarities of the hospital financing and delivery system than to the expected gains in health outcomes.

FACTORS EXPLAINING RISING HOSPITAL COSTS

Most health economists agree on the factors which explain why expenditures are rising more rapidly in the hospital industry than in most other sectors of the economy. There is some disagreement on the relative importance of each specific factor. The most commonly cited reasons for rising hospital costs are:

1) Cost and charge based reimbursement systems which provide few incentives for hospitals to behave efficiently;

2) Aging of the population;

3) New diseases which are expensive to treat, such as AIDS;

4) Health insurance coverage that insulates the consumer from the full price of hospital care;

5) Expensive new technologies;

6) Rapidly increasing input prices and wage levels caused by market conditions, such as the nursing shortage;

7) Supplier induced demand caused by excess hospital beds and low occupancy rates

COST CONTAINMENT INITIATIVES

In response to rising hospital costs, a wide range of initiatives have been instituted in recent years. One approach which has received considerable attention in the 1980s, is to promote competition in the hospital industry. In a competitive market, hospitals might be expected to lower their prices to compete for patients. Inefficient or high cost hospitals would either be forced to close or modify their behavior.

Despite its theoretic appeal, the competitive model does not seem to work in the hospital industry. This is because many of the requirements for a competitive market do not exist. Widespread health insurance, for example, insulates consumers from the true price of hospital care. The established mission of many hospitals and community expectations make it difficult for hospitals to enter or exit from the market. Many markets can sustain only one or two hospitals. These and other constraints prevent the establishment of a competitive market.

Given that the conditions of a purely competitive market do not exist in the hospital industry, there has been considerable interest in what might be called a modified competitive approach. This would allow for some price competition, but does not rely exclusively on market controls to slow hospital cost increases. For example, in the past several years there has been a growth of Preferred Provider Organizations (PPOs), a type of competitive arrangement where, at least theoretically, the organization brings together low cost or efficient hospitals in an effort to capture a greater portion of market share. Hospitals may reduce the price of services so the PPO may offer price discounts to consumers who choose to use the more efficient, participating providers. To date, little is known about the success of PPOs in constraining hospital cost increases.

A third approach to cost containment is a quasi-regulatory administered price system. In this case, third party payers such as Medicare, set the price they are willing to pay for hospital care. The difficulty with instituting an administered price system is the multitude of products that hospitals provide. It is much more complicated than public utility regulation where only one product such as electricity is provided. For example,the Medicare Prospective Payment System (PPS) now sets prices for over 470 diagnosis related groups and then modifies the payment depending on the price of input costs in the local area, the level of teaching and care for the poor, and certain other factors. Increasingly the system is becoming very complex to adjust for all the differences among hospitals.

A fourth general strategy for controlling hospital costs is government regulation. During the 1970s a number of states initiated mandatory rate setting programs to control hospital costs. Other industrialized countries use different forms of regulation to control both access to hospital services and the level of hospital expenditures. For example, in some European countries, the government determines the amount it is prepared to spend for hospital care, and similar to a block-grant approach, allocates that sum to local areas to be sure that public expenditures will not exceed a predetermined level.

SUCCESS OF COST CONTAINMENT INITIATIVES

Despite the multitude of cost containment initiatives adopted in the past several years, most of the evidence suggests that current initiatives have been unsuccessful.

The hospital sector increased at an annualized rate of 10.2 percent during the period between 1980 and 1986. After adjusting for inflation, hospital costs per capita continue to increase at the same rate as before many of the cost containment initiatives started. The real growth in hospital expenditures per capita continues to be 2 to 4 percent faster than the rest of the economy - a trend that began in the 1950s. The one major change that has occurred during the

1980s is a dramatic increase in hospital operating margins/profit margins.

PRODUCTIVITY

Since the adoption of PPS and other cost containment initiatives in the 1980s, a number of indicators suggest that the hospital industry has done little to promote efficiency and in fact has actually taken actions which will increase overall costs.

Between 1983 and 1987 the number of inpatient days declined by 17 percent. During this same period, the number of full time equivalent personnel was reduced by only 3 percent. Clearly hospitals have not responded to the changing market conditions by reducing their staffing.

At the end of 1987, less than 63 percent of the hospital beds were occupied. In 1986, 41 percent of all hospitals were operating at less than 50 percent occupancy and 57 percent were operating at less than 60 percent occupancy. At the same time, hospitals were engaging in significant capital spending.

During the 1980s both the number of personnel per patient and the quantity of capital per patient have increased dramatically. While there has been some increase in the overall complexity of patients seen in hospitals, it is not nearly as large as the increases in either staffing or capital. Overall productivity in the hospital industry has declined during the 1980s.

REASONS WHY COST CONTAINMENT INITIATIVES HAVE BEEN UNSUCCESSFUL

There are five ways to explain why cost containment initiatives have been unsuccessful. One possibility is that the theories explaining rising health care costs are incomplete. Over the past twenty years, economists have offered a variety of theories to explain why health care costs are increasing. It may be the case that current theories are incomplete and an entirely new theory needs to be developed. This seems unlikely.

A second possibility is that some of the theories are incorrect. For example, PPS was based upon the assumption that an open-ended, cost-based reimbursement is a major cause of rapid hospital cost increases. However, if cost-based reimbursement is not to blame for rising hospital costs, than PPS will not be effective in controlling hospital costs. This also seems unlikely.

A third possibility is that we have correctly identified the theoretical reasons for rising hospital costs, but have been unsuccessful in constructing effective policy responses to address these theoretical concerns. To continue using the PPS example, although cost-based reimbursement may indeed be responsible for rising hospital costs, prospective payment may not be the appropriate mechanism for controlling costs; it inadvertently creates incentives that allow hospitals to generate costs by increasing admissions, unbundling services, and discharging patients prematurely. It may be necessary to create new policies with more powerful incentives for hospitals to increase productivity and become more efficient.

A fourth possibility is that we have identified correctly the reasons for rising hospital costs, we have created the appropriate policies, but the implementation of policies has been flawed. For an example, it may be that prospective payment is an appropriate mechanism for controlling costs, but the PPS rates initially were set too high, sacrificing cost savings for political acceptance.

The fifth possibility and the one I am increasingly convinced is correct is that the American public wants all of the services the hospital industry offers and is willing to tolerate the concomitant inefficiencies. It may be our 'revealed preference' as a nation that we want to spend a high proportion of our wealth on hospital services. Increasingly I am convinced that we know how to control hospital costs but are unwilling to do so because of the sacrifices involved.

Representative **Scheuer**. Thank you very much, Mr. Anderson, for your very thoughtful and stimulating written testimony, and you certainly gave us interesting oral testimony.

We will now hear from Dr. Donald Young, Executive Director of the Prospective Payment Assessment Commission. Dr. Young, please proceed.

STATEMENT OF DONALD A. YOUNG, M.D., EXECUTIVE DIRECTOR, PROSPECTIVE PAYMENT ASSESSMENT COMMISSION

Dr. **Young**. Thank you, Mr. Chairman.

I am pleased to represent ProPAC and its 17 commissioners this morning. The information that I am going to present is drawn primarily from the Commission's report to Congress on PPS and the American health care system. This report is currently at the printer and will be available within the next 1 to 2 weeks.[1]

IMPACT OF PROSPECTIVE PAYMENT SYSTEM

The medicare prospective payment system is currently in its fifth year. During this time, several very important things have occurred. First, the rate of increase in medicare inpatient hospital expenditures has declined significantly. Total medicare expenditures, however, continue to increase at rates much greater than the rate of inflation.

Second, the leveling off of inpatient expenditures is due primarily to a decrease in hospital admissions. PPS also encouraged reductions in hospital length of stay and other efficiencies in its early years.

Third, the financial status of hospitals improved dramatically in the first 3 years of the medicare prospective payment system but has declined since then. This decline is due in part to restrained growth in PPS payments, but it is also due to a very dramatic increase in expenses per case.

And, fourth, the decline in hospital admissions as well as the decline in length of stay has been accompanied by substantial growth in expenditures for services furnished outside the hospital.

I would like to highlight a couple of these points this morning. My prepared statement and the Commission's report to Congress will contain much more information on these topics as well as a number of others.

Representative **Scheuer**. And how soon will we have that?

Dr. **Young**. Within the next 1 to 2 weeks.

One of the major changes of the PPS years has been the movement of services outside the hospital. This movement of services has two different impacts on medicare expenditures. In one case, a service can be performed, such as certain surgical procedures, that entirely substitute for an inpatient stay.

Under this circumstance, medicare's part B expenditures will go up, but part A expenditures will come down, and the aggregate effect is frequently a savings for the medicare program.

In the second situation, however, with declining lengths of stay, more services are furnished outside the hospital, either before the admission or after, but there is not substitution for an admission. Therefore, medicare's part B expenditures will go up, but at least immediately there is not a decline in medicare's part A expenditures.

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[1] See executive summary of report at the end of Dr. Young's prepared statement.

ProPAC has continued to be interested in this area and will be examining this shift of services and its impact both on expenditures and the quality of care that beneficiaries receive.

I would like to turn now to a second major impact of the prospective payment system, and that has been on the hospital's financial condition. The incentive of PPS, and one of its fundamental features, is that hospitals can retain the difference between medicare's payments and the costs that it takes to provide services to medicare beneficiaries.

We have examined hospital financial performance by looking at, first, revenues to hospitals; second, expenses in terms of producing care for medicare patients; and, third, the margins or the profits that hospitals are able to generate.

On the revenue side, there have been three major important factors. The first, and the one that is best known, is the medicare annual PPS update. In the first 5 years of PPS, the cumulative update in per-case payments was only 7.8 percent. Other medicare policy changes, however, also influence revenues to hospitals and increase per-case payments. These accounted for an additional 3.2 percent for a total 11 percent increase, which is policy related. This additional 3.2 percent has not been widely recognized.

The third factor, however, is the most important. Because of the way the payment system is structured, using DRG's, and DRG weights, changes in the types of patients treated, together with changes in the coding of medical records and the way that those records are reported, have the potential to also increase payments.

In the first 5 years of PPS, payments increased an additional 18.5 percent on a per-case basis because of changes in the hospital's mix of cases and how they were reported. This increase of 18.5 percent is also not widely recognized. In fact, this increase is almost double that from all policy decisions, including the update factor.

As a result of these three factors, the total increase in per-case payments for the first 5 years of PPS is 31.5 percent. In contrast, the increase in the hospital market basket which measures inflation in the hospital sector was only 15.7 percent. So per-case payments increased at a rate almost double the rate of inflation measured by the market basket. That is the revenue side.

What about the cost side for inpatient operating services? In the first year of PPS, total medicare operating costs decreased substantially. This occurred in part due to decreased admissions, but there were also significant decreases on a per-case basis. The combination of revenue growth and real decline in operating costs resulted in hospitals having margins of 14.7 percent in the first year.

In the second year, a major change occurred. Revenue continued to increase at about the same rate it had previously, but costs jumped up dramatically, to 10 percent per case. As a result, hospitals maintained their margins of slightly over 14 percent.

In the third year of PPS, costs continued to increase at 10 percent, which is about 6 percent greater than inflation, but revenues grew only 3 percent and margins declined to 8.2 percent. We believe that this margin decline will continue. Costs continue to increase close to 10 percent and revenues have been severely constrained.

What factors, then, are contributing to the rapid increase in cost per case? First, as admissions decline, the simplest cases are shifted outside the hospital and the average patient that is admitted is likely to be sicker, and therefore likely to be more costly to treat.

Second, hospital cost reductions can be expected to lag behind admissions. That is, it takes some time for hospitals to adapt to decreasing admissions and decreasing occupancy.

We don't believe that admission declines are the only factor explaining these 10 percent per year cost increases. An additional factor is probably behavioral. That is, in the early years of PPS, hospitals were in an overall strong financial position, as shown by the margins which I noted above. As a result, the pressure for cost reduction was lessened. Hospitals may not have put pressure on their medical staff to eliminate services of questionable value. Hospitals may have been more receptive to add new diagnostic and therapeutic capabilities, and they may also have reduced efforts to improve labor productivity and efficiency.

Before concluding this summary, Mr. Chairman, I would like to comment on two additional aspects of PPS which are very important. The first concerns the financial effects of PPS and medicare policy on beneficiaries, and the second concerns the quality of care.

The constant growth in medicare expenditures directly affects beneficiaries and their out-of-pocket cost. This is especially important to medicare beneficiaries because many of them have limited incomes. The amount of out-of-pocket expenditures per medicare enrollee continues to increase but at a significantly slower rate than in the past. Beneficiary liabilities have increased because they are receiving more services and more expenditures are incurred for services.

In the area of quality care, the decline in hospital admissions and lengths of stay, together with the rapid growth of services in ambulatory settings, affects the care that medicare beneificiaries receive. The Commission does not believe that systematic quality of care and access problems have developed in the inpatient setting since the implementation of PPS.

This conclusion, however, is made recognizing that large gaps exist in the information base used to define and to measure high-quality care.

In addition, with the rapidly growing utilization of ambulatory sites of care, the Commission believes that quality of care review mechanisms need to be implemented and expanded in sites outside the hospital.

In summary, then, national health care expenditures continue to rise. The medicare PPS appears to have contributed to a deceleration in the medicare hospital portion of these expenditures.

Despite cost containment efforts by the Government and private sector payers, we as a nation continue to face rapidly rising health care costs. Most of the changes which are occurring represent competition to traditional hospital care delivery. They also represent opportunities for hospitals to become more efficient and strong institutions. And they present significant challenges to us to ensure that high-quality care which is cost effective is provided outside the hospital.

Other challenges lie ahead in the areas of long-term care and care for the uninsured. With an aging population comes the need for more services. Although medicare is not designed to cover long-term care health care needs of beneficiaries, such care is an important issue that must be addressed.

The problems of the uninsured and the problems of uncompensated care likewise are major problems that must be addressed.

I thank you for the opportunity to present some of these findings. Our report will be delivered to you in the near future. I will be pleased to answer any questions which you may have.

[The prepared statement of Dr. Young, together with the executive summary of the June 1988 Prospective Payment Assessment Commission Report to Congress, follows:]

PREPARED STATEMENT OF DONALD A. YOUNG, M.D.

Thank you for the invitation to testify this morning regarding payment for hospital care. I am Donald A. Young, M.D. Executive Director of the Prospective Payment Assessment Commission (ProPAC), and I am pleased to represent the Commission this morning.

ProPAC was created by Congress to provide advice on the implementation and maintenance of the Medicare Prospective Payment System (PPS). ProPAC was also given the responsibility of reporting annually to the Congress on the effects of PPS on the American Health Care system. We are currently completing our third such report which will be available in June.

My testimony today summarizes some of the Commission's findings and conclusions which are contained in that report.

Summary of Findings

The Medicare Prospective Payment System (PPS) is currently in its fifth year. PPS, together with other changes in health care financing, have had mixed effects on health care in America. The rate of increase in Medicare inpatient hospital expenditures has slowed substantially. Total Medicare expenditures, however, continue to increase at rates significantly greater than the rate of inflation. The leveling off of inpatient expenditures is primarily because of declining admissions, which cannot be attributed to the incentives of PPS. Nevertheless, PPS did encourage reductions in length of stay and other efficiency gains during the early years of the system.

As a result, the financial status of the hospital industry as a whole improved dramatically in the first three years of PPS, but has declined since then. While the level of Medicare payments to hospitals has been restrained in recent years, the more important reason for declining hospital financial condition is a dramatic increase in expenses per case.

Declining inpatient hospital admissions and length of stay have been accompanied by substantial growth in expenditures in outpatient settings. Thus, there has been a major shift in the way Medicare and other health dollars are spent, without a substantial change in the trend in overall spending.

Let me turn now, Mr. Chairman, to a more detailed discussion of some of these findings.

Expenditures and Cost Containment

Despite efforts of the health care industry, government and private sector payers to contain health care spending, the growth in total expenditures is essentially unchanged in the past 10 years. National health expenditures continue to grow at rates exceeding general inflation in the economy.

In the five-year period spanning 1979 to 1984 Medicare spending more than doubled from $30 to $65 billion. Since then, with the decline in overall inflation and changes in hospital admissions and payments, there has been a slow down in the Medicare spending rate of growth.

The enactment of PPS for Medicare hospital payment was a major federal initiative in the area of health cost containment. Beginning in 1980 and accelerating after 1982, the inflation-adjusted growth rate of Medicare expenditures per enrollee has fallen. This has been due primarily to the slower growth in inpatient hospital expenditures. In 1986 the growth rate for inpatient hospital expenditures became negative. Figure 1, attached to my testimony, displays the differences in growth rates for inpatient hospital and all other Medicare expenditures.

Thus, the Medicare share of personal health care expenditures attributed to hospital care is declining. From 1985 to 1987, for Medicare, hospital spending as a percentage of total health care expenditures declined by 1.6 percentage points, whereas spending for other types of Medicare services increased by 0.6 percentage points.

While the rate of increase in inpatient hospital and other Part A benefit payments has slowed significantly in the past 3 years, benefit payments for Part B services continue to increase at rates greatly exceeding inflation. The changes in benefit payments from 1977 to 1987 are presented in Table 1 attached to my testimony.

As a result, the Part A share of total Medicare expenditures fell from 68.4 percent in 1984 to 61.5 percent in 1987. The decline in the share of Part A expenditures is primarily due to the decline in inpatient hospital admissions, although other factors are also responsible.

In the years just before PPS, hospital admissions for those age 65 and older increased an average of 4.8 percent a year. Beginning in 1984 a dramatic and unexpected decline in hospital admission occurred. From 1984 to 1987 admissions decreased on average 2.2 percent a year. In 1987 however, admissions again increased slightly.

Changes in the site of Care

The decline in admission rates cannot be attributed to the incentives of PPS. PPS, however, does provide incentives for moving some health care services from the inpatient to the outpatient setting. The movement of service out of the hospital is related to other changes which are occurring in health services delivery such as advances in technology, new medical practice patterns and the growing availability of services in new ambulatory settings. The Commission's June report to the Congress documents the rapid growth of these new alternative sites of care.

Changes in the site of health care delivery can have two different effects on Medicare expenditures. First, an increasing number of procedures are being performed in ambulatory settings, rather than during an inpatient admission. Thus a hospital admission is eliminated. These changes in site of care have resulted in a shift in facility payments from Part A to Part B, frequently at a savings to Medicare.

Second, services that used to be provided as part of a hospital admission increasingly are delivered before or after the hospital stay in an ambulatory setting. Therefore, there is still a hospital admission, but inpatient services are now shifted to the outpatient setting. The result of these changes in site of care is a growth in Part B expenditures. Part A expenditures however will not immediately decrease. The Commission is continuing to examine the effects of these changes in site of care on expenditures as well as quality of care.

Substituting outpatient care for part of an inpatient stay or for an entire admission is one of the most important changes in health services delivery during the 1980s. This trend, which is partially attributable to PPS, has also affected hospital occupancy and the financial status of hospitals.

In 1980, the average hospital occupancy rate was 75.9 percent. In 1987 the occupancy rate was 64.1 percent with a decrease of 1.3 percent in the number of hospital beds between 1984 and 1987. In response to declining inpatient utilization, some hospitals are converting unused capacity to furnish post acute care services and ambulatory care services.

In addition, hospital closures are increasing. In 1987, 80 community and 16 specialty hospitals closed. Community hospital closures were evenly divided between urban and rural areas. Of the community hospitals that closed, 76 percent had fewer than 100 beds.

Trends in inpatient hospital revenue, expenses, and operating margins

I would like to turn now to a discussion of hospital financial condition under PPS. The Medicare PPS permits hospitals to retain the difference between PPS payments and the operating costs of providing inpatient services to Medicare beneficiaries.

Many of the incentives for change in hospital behavior derive from this fundamental feature of the system.

One way of assessing hospital financial performance under PPS is to examine trends in hospital operating revenues, expenses and margins.

To better understand changes in PPS operating revenues, ProPAC simulated per-case payments to hospitals. The results of the simulation are displayed in Table 2 attached to my testimony.

Three major factors contribute to increases in hospital operating revenues under PPS. The first, and best known, is the annual update factor. Initially the Secretary of HHS was responsible for determining the update factor. More recently, the update factor has been set by Congress with different levels for rural hospitals, urban hospital in areas with more than a million residents, and other urban hospitals. The cumulative update factor through the first five years of PPS increased per-case payments by about 7.8 percent.

Other Medicare PPS policy changes also influence hospital payments. These other policy changes increased revenues an additional 3.2 percent resulting in a cumulative 11.0 percent policy-related per-case payment increase. This occurred primarily because the transition from hospital-specific to national rates inadvertently led to an increase in payments to hospitals. This additional increase in payments has not been widely appreciated.

A third factor, changes in hospital case mix, resulted in an additional increase in per-case payments of 18.5 percent. Payments to hospitals are determined in part by the case-mix index (CMI) of the hospital. A hospital's CMI will change with a change in the types of patients treated together with changes in the coding of medical records and reporting. It is also not widely appreciated that over the first five years of PPS, CMI change led to payment increases almost double those resulting for all policy decisions combined, including the update factor.

When the effects CMI change and policy decisions are combined, the cumulative increase in per-case payments for the first five years of PPS is 31.5 percent. In comparison, the cumulative increase in hospital market basket measure of inflation was 15.7 percent during this time. To some extent, the large increase in revenue from CMI change that occurred during the first few years of PPS led Congress to set update factors below the market basket inflation rate.

Hospital Response to PPS

Evidence suggests that during the period preceding and immediately following PPS implementation, hospitals responded to cost containment incentives. More recently, however, there is little evidence to suggest that hospitals have sustained such efforts to reduce the costs of inpatient care.

The pattern of initial response followed by a return to pre-PPS behavior is evident in several indicators. For example, hospitals cut back employment levels substantially when PPS was introduced. Employment is once again increasing, largely however, because of increased outpatient activity. Similarly, growth in labor expenses per FTE declined considerably in the first two years of PPS, but is again on the rise. Recent increases reflect, in part, the continued shift to more highly skilled workers which has been a characteristic of the PPS years.

Second, between 1984 and 1985 capital costs grew at the slowest rate of increase since 1977. More recent data suggest, however, that capital spending may be accelerating.

Finally, when we examined productivity, we found a gradual slowdown in the growth of hours per unit of service since the beginning of PPS. In addition, although hospitals achieved reductions in intensity, or services per discharge, these were confined to the first two years of PPS. More recently, intensity is once more increasing. Our evidence on productivity is confounded by substantial changes in the hospital product during the 1980s. Nevertheless, we conclude that the industry has not achieved absolute productivity gains under PPS.

Hospital Profits

The financial condition of the hospital industry as a whole improved dramatically in the first three years of PPS but has declined since then. After reaching a high level at the start of the new payment system, PPS operating margins have fallen due to rapidly rising costs combined with slower growth in PPS revenue.

Changes in Medicare operating costs, revenues and margins for the first three years of PPS are shown in Tables 3 and 4.

During the first year of PPS, total Medicare operating costs declined substantially. In part, the decline was due to the significant drop in Medicare admissions. But even on a per-case basis, Medicare operating costs decreased, most likely in response to PPS incentives. Meanwhile, revenue during the first year of PPS rose dramatically. The combination of fast revenue growth and real declines in operating costs lead to a very high first-year PPS operating margins of 14.7 percent.

During the second year of PPS there was an important change. Revenue per-case continued to grow - but costs grew just as fast. Because costs and revenue grew at about the same rate, the aggregate PPS operating margins remained about the same at 14.1 percent.

In the third year of PPS operating costs per case continued to grow at a 10.4 percent rate, about 6 percent more than inflation, but revenue per case grew only 3.0 percent. Thus, the aggregate margins fell from 14.2 percent to 8.2 percent.

We believe PPS operating margins have continued to decline since the third year of PPS. Medicare cost data are not yet available for these years. But AHA data suggest that costs per case continue to rise rapidly. If the 10 percent increase in costs per case continued into the fourth year of PPS, the overall PPS operating margin will have declined to about 2 percent. Even if cost increases slowed to the level of inflation after that, the overall margin for the current fiscal year, 1988, would be about zero.

Sources of Cost Increases

Several factors contribute to the rapidly increasing costs per case that are driving down PPS margins. During a period of declining admissions such as hospitals have experienced since 1984, per-case costs would be expected to increase for two reasons. First, as admissions decline, the average patient admitted is likely to be sicker and more costly to treat. Second, hospital cost reductions are expected to lag behind admission declines. Hospitals are not able to make staffing cut-backs and other changes to reduce costs quickly. That is, certain costs are fixed in the short run.

Recent increases in Medicare operating costs per case do not appear to be caused only by admission declines, however. Decreases in Medicare inpatient stays were similar during the first two years of PPS. Despite falling admissions, hospitals achieved a real decline in costs per case during the first year. In contrast, costs increased much faster than inflation during the second year. Moreover, while the decline in discharges slowed in the third year of PPS, costs per case continued to grow at the same rate. If the per-case cost increases were due solely to volume decline, real costs would be expected to grow more slowly by the third year.

We believe a contributing factor to the cost increases may be changes in hospital behavior. During the early years of PPS, hospitals overall were in a strong financial position, partly because they held down costs during the first year. As a result, pressure imposed by PPS for further cost reductions may have lessened. Although hospitals can always increase margins by reducing costs under PPS, they may make trade-offs between maximizing margins and other goals associated with providing the most up-to-date medical care. In particular, hospitals may not have continued pressure on the medical staff to eliminate using services of questionable value. They may also have been more receptive to medical staff requests to add new diagnostic and therapeutic capabilities.

The long-term consequences of PPS on hospital productivity and costs are uncertain. Payments to hospitals under PPS are much lower, compared with costs, than in the early years for which data are available. Time will tell whether the pressure of tighter rates will evoke a behavioral response that lowers increases in cost per case. More stable admission and length of stay trends may create a favorable environment for hospitals to respond to the cost escalation problem.

Before concluding, Mr. Chairman, I would like to comment on two additional aspects of PPS that are very important. The first concerns the financial effects of Medicare policy on beneficiaries. The second concerns quality of care.

Financial Effects on Medicare Beneficiaries

Because Medicare was not designed to cover all health care costs, beneficiaries must share financial responsibility for Medicare covered services. Beneficiaries are also responsible for the cost of services that Medicare does not cover.

The constant growth in Medicare expenditures directly affects beneficiaries' out-of-pocket costs. This is especially important because many Medicare beneficiaries have limited incomes. The amount of out-of-pocket expenditures per Medicare enrollee, adjusted for inflation, continues to increase but at a significantly slower rate than in the past. The increase in beneficiary liabilities is primarily due to the growth in expenditures for health care services beneficiaries receive. Thus, although the total out-of-pocket expenditures are rising, beneficiary payments as a percentage of total Medicare expenditures have remained essentially unchanged. The movement of services from the inpatient to the outpatient setting also has a complex effect on beneficiary cost-sharing.

The Commission is concerned by the constant growth in Medicare expenditures and the impact this is having on beneficiaries. We plan to continue to examine this subject.

Quality of Care

The decline in hospital admissions and length of stay, together with the rapid growth of services in ambulatory settings, affects the care Medicare beneficiaries receive. The Commission does not believe that systematic quality of care and access problems have developed in the inpatient setting since the implementation of PPS. This conclusion, however, is made recognizing that large gaps exist in the informative base used to define and measure high quality of care. As increasing financial pressure is placed on hospitals to reduce costs, we have to be especially vigilant regarding changes in quality of care.

We have also devoted special attention to the care provided to certain vulnerable patient groups as well as to the services provided for the post-acute care phase of an illness.

Finally, with the rapidly growing utilization of ambulatory sites of care, the Commission believes that quality of care review mechanisms should be implemented or expanded in these sites.

Conclusions

In summary, Mr. Chairman, National health care expenditures continue to rise at their historic rates which are significantly greater than the rate of inflation. The Medicare PPS appears to have contributed to a deceleration in Medicare hospital expenditures. This is primarily due to a decrease in hospital admissions and the movement of services out of the inpatient setting. However, the increase in expenditures for services outside the hospital nearly equals the gains made in the inpatient setting.

Other insurers, both public and private, have also been pursuing the goal of containing the growth in health care expenditures. Managed care initiatives, enhanced utilization review and the promotion of alternative financing and delivery systems have been implemented by state Medicaid programs, employers and other insurers. Despite such efforts, we as a Nation continue to face rising health care expenditures.

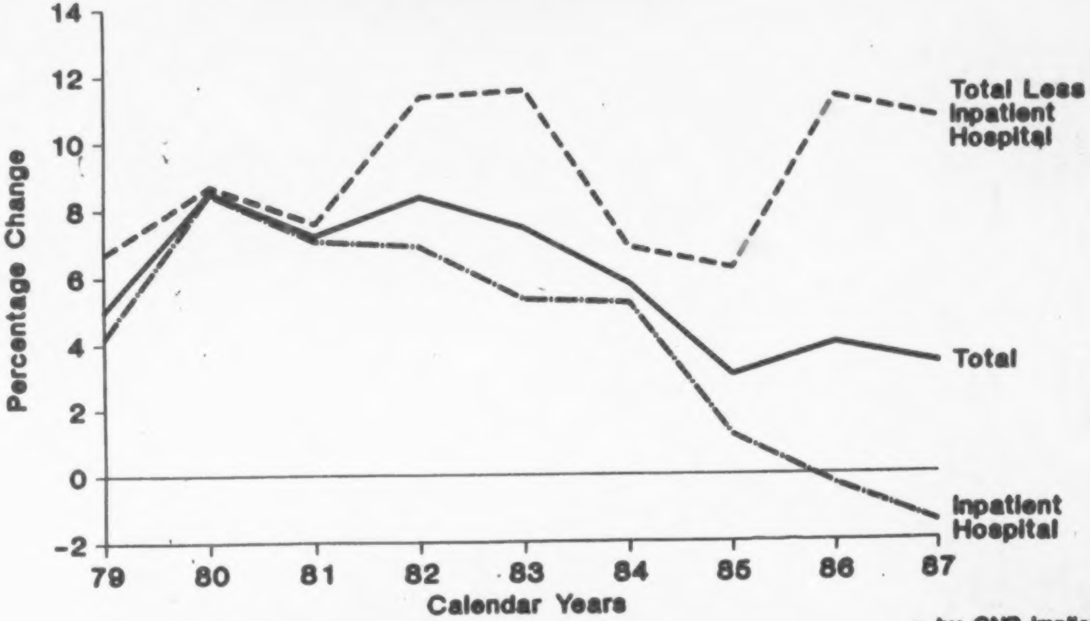
ProPAC is particularly concerned about how these new financing and delivery modes will affect the growth of expenditures and beneficiary out-of-pocket costs as well as access to and quality of care. Many of the changes represent competition to traditional hospital care delivery. They also represent opportunities for hospitals to become more efficient and strong institutions.

Other challenges lie ahead in the areas of long-term care and care for the uninsured. With an aging population comes the need for additional health care services. Although Medicare is not designed to cover the long-term health needs of beneficiaries, such care is becoming an important issue that must be addressed. The problems of the uninsured and uncompensated care also require careful attention.

Efforts such as the Medicare PPS can produce desirable, though limited, cost control results. A broader effort, however, is essential if we wish to produce larger scale results.

Thank you for the opportunity to present some of the findings of the Commission's forth-coming report to Congress. I will be pleased to answer any questions you may have.

Figure 1 Annual Growth Rates of Inflation-Adjusted* Medicare Expenditures per Enrollee – Total, Inpatient Hospital, and Total Less Inpatient Hospital



* by GNP implicit price deflator

Source: Office of the Actuary, Health Care Financing Administration, as deflated by ProPAC.

Table 1. Medicare Benefit Payments (in Billions of Dollars) and Percent Change, 1977–1987

	PART A Inpatient Hospital		PART B Outpatient Hospital		PART A Other Services[a]		PART B Other Services[b]		TOTAL MEDICARE	
Calendar Year	Payments	Percent Change	Payments	Percent Change	Payments	Percent Change	Payments	Percent Change	Payments	Percent Change
1977	$15.1	--	$1.1	--	$0.7	--	$5.3	--	$22.2	--
1978	17.3	14.9%	1.4	21.2%	0.8	10.8%	6.2	17.4%	25.7	15.7%
1979	20.2	16.5	1.6	20.6	0.9	14.3	7.4	19.6	30.1	17.4
1980	24.4	20.8	2.0	20.1	1.0	17.7	9.0	21.7	36.4	20.9
1981	29.2	19.7	2.4	20.0	1.4	36.3	10.7	18.5	43.7	19.9
1982	33.8	15.7	2.8	19.3	1.9	33.6	12.7	19.1	51.2	17.3
1983	37.6	11.3	3.4	18.2	2.3	22.3	14.9	17.3	58.2	13.6
1984	41.8	11.0	4.0	20.0	2.6	16.3	16.5	10.6	64.9	11.6
1985	44.4	6.2	4.6	13.5	2.8	5.3	18.5	12.1	70.2	8.1
1986	46.2	4.2	5.2	14.9	2.9	6.0	21.9	18.4	76.3	8.7
1987[c]	47.8	3.5	6.3	21.0	3.1	6.8	25.5	16.5	82.8	8.5

[a] Includes home health services, skilled nursing, and hospice care.

[b] Includes physician, suppliers, independent laboratory, home health services, and group prepayment practices.

[c] All payments are reported as incurred expenditures.

SOURCE: U.S. Department of Health and Human Services, Health Care Financing Administration, Office of the Actuary.

ble 2. **Effects of PPS Update Factors and Other Policies on Per-Case PPS Payments to Hospitals (In Percent Change)[a]**

	Payment Policy Years						
Hospital Type	1984[b]	1985	1986[c]	1987	1988[d]	Total	Total with Case-mix Change[e]
PPS Market Basket		4.1%	2.9%	3.4%	4.5%	15.7%	
PPS Update Factor		4.5	0.5	1.15	1.5	7.8	
All hospitals	0.7%	5.9%	0.9%	0.7%	2.4%	11.0%	31.5%

[a] Figures are not estimates of actual changes in fiscal year PPS hospital payments. Payments are simulated to isolate the effects of changes in PPS policies during the first five years of PPS. The effects on payment of changes in length of stay and volume are not included. Except for the last column, case-mix index change is also excluded. New York and Massachusetts are included in 1987 and 1988 columns only.

[b] 1984 column shows effects of changing from fully hospital-specific payments to first-year PPS blended rates. Other aspects of the charge from TEFRA to PPS, including the total increase in per-case payments, are not included.

[c] 1986 column simulates payments under a full year of COBRA policies, which did not take effect until May 1986. The 1.0 percent Gramm-Rudman payment reduction in effect from March 1, 1986 through September 30, 1986 is not included.

[d] 1988 column simulates a full year of OBRA 1987 policies, which did not take effect until April 1988. Also included is the teaching reduction, which will not actually be implemented until fiscal year 1989.

[e] The last column adjusts the total to include estimated case-weighted CMI change from 1983 to 1988. Variation in CMI change across hospital groups was measured from 1981 to 1988. An across-the-board adjustment was made for other years.

SOURCE: ProPAC simulations based on data from the U.S. Department of Health and Human Services, Health Care Financing Administration.

Table 3. Change in Aggregate Medicare Operating Costs, Cases, and PPS Revenue for the First Three Years of PPS (In Percent)

Year	Total Medicare Operating Costs	PPS Revenue	Cases	Costs Per Case	Revenue Per Case	Market Basket*	Update Factor
TEFRA to PPS 1	-4.4%	9.3%	-5.8%	1.3%	15.8%	6.3%	4.7%
PPS 1 to PPS 2	3.0	3.3	-6.3	10.0	10.3	4.1	4.5
PPS 2 to PPS 3	6.5	-0.6	-3.6	10.4	3.0	3.1	0.5

* Market basket and update factors are for Federal fiscal years 1984 through 1986, whereas cost and revenue data are for hospital accounting years beginning during those Federal fiscal years. The update factor for fiscal year 1984 is the statutory adjustment required to set the initial PPS rates of market basket plus one, adjusted for budget neutrality. The 0.5 percent update factor for fiscal year 1986 did not take effect until seven months into the hospital accounting year.

SOURCE: ProPAC estimates based on Medicare Cost Report data for a cohort of 2,882 hospitals. Excludes hospitals in Maryland, Massachusetts, New Jersey, and New York.

Table 4. Aggregate Revenue and Costs Per Case and PPS Operating Margins for the First Three Years of PPS

Year	PPS Revenue Per Case	Medicare Operating Costs Per Case	PPS Margin (In Percent)
PPS 1	$3,500	$2,990	14.7
PPS 2	3,845	3,300	14.1
PPS 3	3,940	3,615	8.2

SOURCE ProPAC estimates based on Medicare Cost Report data for a cohort of 3,321 hospitals. Excludes hospitals in Maryland, Massachusetts, New Jersey, and New York.

PROSPECTIVE PAYMENT
ASSESSMENT COMMISSION

MEDICARE PROSPECTIVE PAYMENT AND THE AMERICAN HEALTH CARE SYSTEM

REPORT TO THE CONGRESS

JUNE 1988

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Stuart H. Altman, Ph.D.
Chairman

Donald A. Young, M.D.
Executive Director

June 1, 1988

The Honorable George Bush
President of the Senate
United States Senate
Washington, DC 20510

Dear Mr. President:

I am hereby transmitting to the Congress the report Medicare Prospective Payment and the American Health Care System. This report has been prepared by the Prospective Payment Assessment Commission as requested by the Committee on Appropriations of the House of Representatives (H.Rep.No.911, 98th Cong.,2d Sess.140 (1984)).

Sincerely,

Stuart H. Altman, Ph.D.
Chairman

Enclosure

PROSPECTIVE PAYMENT ASSESSMENT COMMISSION
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Stuart H. Altman, Ph.D.
Chairman

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June 1, 1988

The Honorable Jim Wright
Speaker
U.S. House of Representatives
Washington, DC 20515

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Sincerely,

Stuart H. Altman, Ph.D.
Chairman

Enclosure

Executive Summary

As this report was written, the Medicare prospective payment system (PPS) was halfway through its fifth year. Many mid-course corrections had been instituted since implementation in fiscal year 1984, and the transition to a national system of payments was nearly complete. While information concerning the consequences of this major reform in health care financing has become more thorough, especially for the early PPS experience, many questions remain.

The Prospective Payment Assessment Commission (ProPAC) was created by Congress to provide advice on the implementation and maintenance of PPS. Congress also gave ProPAC the responsibility of reporting annually on the effects of PPS on health care in the United States. This is the third such report. It updates the previous report, published in February 1987, and contains new information based on data that have only recently become available.

The report covers the consequences of PPS for beneficiaries, hospitals and their employees, and government. It also more broadly discusses the effects of major recent changes in health care, of which PPS is a part but not necessarily a cause. Conclusions about cause and effect are drawn where the evidence will support them. In many instances, however, the information is presented descriptively because definitive conclusions are not possible. The consensus judgments of ProPAC's 17 Commissioners about system effects and tendencies are reflected below and throughout the report.

OVERVIEW

The Medicare prospective payment system, together with other changes in health care financing, has had mixed effects on health care in America. The rate of increase in Medicare inpatient hospital expenditures is down. Total inflation-adjusted Medicare expenditures, however, continue to increase at rates similar to those of the past ten years. The leveling off of inpatient expenditures is primarily due to declining admissions, which cannot be attributed to the incentives of PPS. Nevertheless, PPS did encourage reductions in length of stay and other efficiency gains during the early years of the system. Recently, however, increases in inpatient expenses per case have been significantly greater than the rate of inflation. Throughout the PPS period, there is no available information to suggest that quality of care for Medicare hospital patients has systematically declined.

Hospital financial performance under PPS has been variable—both over time and across hospitals. It is now well known that average PPS operating margins per case were unexpectedly high during the first two years of PPS but have fallen substantially since then. This recent experience is the result of hospital expenses per case rising over twice the inflation level, with Medicare payments per case rising less than inflation. This difference cannot be fully explained by hospitals treating sicker patients or by greater than expected wage increases paid to hospital employees. Because PPS severs the link between payments and an individual hospital's costs, some hospitals continue to earn substantial profits from PPS. Others are experiencing losses.

Changes in the level of PPS payments result from annual updates in PPS prices, other policy changes, and changes in hospitals' diagnosis-related group (DRG) case-mix indexes. The Commission found that for the first five years of PPS, case-mix index change led to greater payment increases than all policy decisions combined, including decisions about the update factor.

The Commission has not found evidence of substantial and systematic changes in the quality of care received by Medicare hospital patients since the implementation of PPS. Nor has there been a major reduction in the diffusion of new technology in hospitals. But the knowledge necessary to reach definitive conclusions about the quality, appropriateness, and cost-effectiveness of medical care does not exist. This is especially true in outpatient and alternative care sites, where Americans increasingly receive their health care.

Decreased inpatient hospital use has been accompanied by substantial acceleration of expenditures in outpatient, ambulatory, and alternative care sites. This is true for the Medicare program and for the health care system as a whole. Thus, there has been a substantial shift in the way health dollars are being spent during the 1980s, without an apparent change in the overall spending trend.

Health care spending trends also affect beneficiaries' liabilities. The amount of Medicare-related out-of-pocket costs for each Medicare enrollee, adjusted for inflation, continues to increase. This increase is due to a number of factors, including the continued growth in health care expenditures. The rate of increase is slower than in the past, however. In addition, total beneficiary out-of-pocket costs, as a percent of total Medicare-related expenditures, have remained essentially unchanged.

Despite efforts of the health care industry, government, and private sector payers to contain health care spending, the growth in aggregate expenditures has not changed. The consequences of an inability to moderate the growth in health care spending are difficult to untangle, but in many significant areas, needs are going unmet. These include paying for long-term care services and health services for the millions of Americans who lack financial protection against the costs of illness.

The rest of the Executive Summary is organized in accordance with the six chapters of the report. Chapter 1 examines changes in patient care, with emphasis on services used by Medicare beneficiaries. It also includes a discussion of studies related to quality of care. Chapter 2 focuses on hospital organization, resources, and financial condition. Trends in hospital revenues, costs, and operating margins are discussed. Chapter 3 is concerned with the distribution of PPS payments to hospitals. It also examines the components of PPS payments.

Chapter 4 addresses the financial effects of changes in the health system on beneficiary out-of-pocket costs. Emphasis is placed on the effects of moving services from the inpatient to ambulatory settings. Chapter 5 more broadly discusses trends in health care expenditures and cost-containment activities. Finally, Chapter 6 examines recent changes in the health care system, including the growth of alternative financing and delivery mechanisms.

PATIENT CARE

The precipitous decline in the use of inpatient hospital services that coincided with the early years of PPS appears to be waning. Admissions were still declining in 1987, but much more slowly than in prior years, and length of stay was rising slightly. For the first time in several years, total patient days increased in 1987.

The number of Medicare beneficiaries and the proportion using health services both have increased during the PPS years. Concurrently, there has been a pronounced change in the way that health services are delivered. While the proportion of beneficiaries hospitalized has dropped, the proportion using home health, physician, and outpatient services has risen. This shift in the site of care has led the Commission and others to be concerned about the appropriateness of services received by beneficiaries in lieu of, or in addition to, inpatient hospital care.

ProPAC's analyses of the effects of PPS on the quality of and access to care for Medicare beneficiaries have not identified systematic problems. The Commission has initiated studies of potentially vulnerable beneficiary subgroups—the very old elderly, the low-income elderly, and beneficiaries with selected illnesses. The Commission expects that if inpatient quality problems occur, they should be initially detectable in the group of most vulnerable beneficiaries. Preliminary findings have not identified quality deficiencies, although there is much left to be done in this area.

The Commission's analysis of subacute care also has not produced findings to suggest a systematic deterioration of quality. The study has highlighted, however, the fact that the availability and use of post-acute care—services that provide a transition between acute care and full recovery—vary widely around the country. Post-acute care services available to beneficiaries in some parts of the country appear to be largely unavailable elsewhere. This finding requires additional attention to determine whether access to needed services is being jeopardized in some areas.

Review mechanisms set in place by Peer Review Organizations (PROs) are functioning as expected.

Since the beginning of PPS, there has been a gradual and appropriate change in PRO emphasis toward quality review. Again, however, variability is the norm. While quality screens tend to detect a relatively small aggregate proportion of cases with quality problems, the proportions vary substantially across the 54 PROs. The Commission believes that greater uniformity in PRO activities would be desirable, as would a greater emphasis on post-acute care quality review.

The Commission continues to believe that PPS should not inhibit the development and diffusion of quality-enhancing technologies. Analyses of the diffusion of such technologies as lithotripsy, magnetic resonance imaging, and expensive implantable devices do not indicate that major effects on the diffusion of technology have occurred. Nor do these analyses suggest that high-technology services are becoming more concentrated in ways that would undermine access for some beneficiaries. This evidence pertains to a period when Medicare payments were much more generous, relative to hospital costs, than at the present or in the likely future. ProPAC will continue analyses to determine if financial pressures will reduce the development or availability of new technology to Medicare beneficiaries.

HOSPITAL ORGANIZATION, RESOURCES, AND FINANCIAL CONDITION

The hospital industry's response to the incentives of PPS and other financing changes has been extremely variable over the past five years. Hospitals were forced to respond to these changes when the major shift away from inpatient hospital services was already under way. Despite this trend, hospitals initially were able to achieve substantial savings in the production of inpatient care. But after the first year of PPS, hospital costs began to rise, relative to inflation, at rates exceeding those of the pre-PPS period.

Hospital employment dropped in the early PPS period, but has risen again more recently. In addition, hospital employment mix has become more highly skilled, and part-time and contract employment in hospitals has become more prevalent. Many hospitals report shortages in skilled positions, particularly nursing. Some hospitals also report large wage increases to attract and retain skilled labor. Shortages, however, have not yet been reflected by substantial average increases in national wage and employment data bases.

Medicare continues to reimburse hospitals for capital costs on a pass-through basis, at less than full-cost reimbursement, and will do so at least until 1992. Aggregate capital costs continue to increase faster than operating costs. Capital cost increases slowed during the early PPS period but appear to be rising again.

All-patient data from the American Hospital Association (AHA) and Medicare data show similar, although not identical, trends in hospital resource use and costs. AHA data indicate that the resources used to produce individual services grew moderately, but consistently, over the PPS period. The intensity of services provided to hospitalized patients, however, has fluctuated widely. Intensity dropped in the early PPS period, but more recently has risen to levels above the pre-PPS period.

AHA data indicate that hospital revenues increased at a slightly greater pace than expenses throughout the 1970s and early 1980s. In 1984, however, revenues grew much faster than expenses. In the next three years, expenses grew more rapidly than revenues for the first time in many years. By 1987, operating revenue margins had fallen to approximately the level of the late 1970s.

Data on Medicare inpatient costs and revenues tell a similar story for the PPS years. Cost increases are frequently compared to inflation in the prices of goods and services that hospitals purchase. The per-case cost increase, which initially declined below inflation in the first year of PPS, subsequently rose to about 10 per cent per year—6 percentage points above inflation, on average. While PPS revenues per case increased substantially in the first two years, they have not kept up with costs since then. Average PPS operating margins exceeded 14 percent in the first two years, falling to 8 percent in the third year. According to ProPAC estimates, the decline has continued so that the average PPS margin is currently close to zero.

The Commission is concerned by these recent cost increases and does not completely understand why they have occurred. It is likely that declining admissions and shortages of skilled personnel have exerted upward pressure on costs per case. A sicker patient population, as the least complex cases have been shifted to the outpatient setting, is also partially responsible. But these explanations are not sufficient to account for the magnitude of the increases in costs per case. It is possible that high earnings during the early PPS period reduced the pressure to achieve additional efficiencies, resulting in a lack of cost control in subsequent years.

Hospitals were able to attain relatively high Medicare earnings in the first two years of PPS because of efficiency gains and increases in revenues per case. Formal updates of PPS prices have never been large, but hospitals have received additional increases in payments, especially through increases in their DRG case-mix indexes. These additional sources of revenue increases have diminished with the passage of time under PPS. In a fiscal environment where payments are unlikely to rise substantially, the Commission is concerned that a continuation of the hospital cost trend will reduce revenue margins even further. This could jeopardize the financial viability of many hospitals and ultimately threaten Medicare beneficiaries' access to high-quality hospital care. The challenge is to find the appropriate balance between payment increases and cost reductions.

PPS HOSPITAL PAYMENTS

The aggregate PPS trends discussed above conceal substantial variation across hospitals. For example, the median Medicare inpatient operating margin in the third year of PPS was 5.1 percent. In this same year, the top 10 percent of hospitals had margins of 19.4 percent or greater, and the bottom 10 percent had margins of −18.5 percent or less. This variability illustrates a fundamental feature of fixed-price reimbursement based primarily on national averages: it inevitably creates winners and losers, as well as incentives to economize. The extent to which winning or losing under PPS is within the hospital's control is uncertain. This is a continuing source of concern to the Commission.

In fiscal year 1988, it is estimated that PPS will pay 5,700 hospitals for inpatient care furnished to 9.9 million Medicare beneficiaries. PPS payments and beneficiary copayments together will amount to approximately $43 billion. Under a fully phased-in system, basic payments would account for 88 percent of these dollars, indirect teaching payments for 4 percent, disproportionate share payments for 2 percent, and outlier payments for 5 to 6 percent. Even though urban and rural hospitals are approximately equal in number, the former receive about five-sixths of the payments because of their greater patient volume and the complexity of the illnesses of their patients. For similar reasons, teaching hospitals, which comprise less than 20 percent of all hospitals, receive nearly 50 percent of the payments.

The formal update in DRG prices has been a matter of substantial public debate each year since the beginning of PPS. Yet ProPAC analyses show that changes in the distribution of patients among the DRGs have been a more important source of increased payments to hospitals than the annual update factor. Payments to hospitals rise in proportion to increases in their DRG case-mix indexes. Although these case-mix index increases were substantial in the early years of PPS, they have diminished, in the aggregate, more recently.

Policy decisions affecting the payment distribution have tended to benefit hospitals with the lowest case-mix index increases. For example, rural hospitals have had less increase in payments from case-mix index change than urban hospitals. But adjustments in the payment system since the implementation of PPS, such as granting a higher update to rural hospitals in the fiscal year 1988 rates, have partially offset the effects of case-mix change on the urban-rural hospital payment distribution. Similarly, teaching hospitals have had the greatest increase in case-mix indexes. Payments to these hospitals, however, were reduced by two separate policy decisions to lower the indirect teaching adjustment since the beginning of PPS.

Variation in hospital payments and revenue margins is an expected outcome of PPS. Many of the policy decisions made since implementation have tended to counterbalance the redistributive consequences of the payment system. The Commission will continue to identify and explore variations in PPS margins among hospital groups to determine if they are caused by flaws in the payment system. To ensure that PPS treats hospitals fairly, efforts to refine the technical base for payments must continue.

BENEFICIARY FINANCIAL EXPERIENCE UNDER MEDICARE

Medicare was not designed to cover all of beneficiaries' health care costs. Beneficiaries share financial responsibility for covered services through premiums, deductibles and coinsurance, and payments of physicians' charges in excess of Medicare's allowed amounts. Beneficiaries also incur substantial costs for services that Medicare does not cover—principally long-term care, preventive services, and prescription and nonprescription drugs outside the hospital.

Beneficiary Medicare-related out-of-pocket costs increased during the 1980s. The most significant increases were in the Part A inpatient hospital deductible, which rose from $180 in 1980 to $400 in 1985 and $540 in 1988, and the Part B premium (physician and other non-hospital services), which rose from $115 in 1980 to $186 in 1985 and $298 in 1988. Despite these increases, the beneficiary share of spending for covered services remained nearly constant from 1980 to 1987 at approximately 23 percent. During this period, the fraction of doctors' bills not paid by Medicare declined significantly.

Noncovered services are primarily paid for directly by beneficiaries, with some coverage through private insurance. Nursing home care is by far the most significant of these services, averaging between $530 and $890 per aged beneficiary in 1987. Approximately 5 percent of aged beneficiaries require nursing home and other long-term care services each year, and are therefore at risk of incurring substantial out-of-pocket costs. Moreover, this risk increases with age for the elderly population.

Catastrophic health care proposals currently debated in Congress would not help cover the costs of long-term care services. They would, however, reduce copayments for beneficiaries who require substantial acute care services and cover the costs of some other services. ProPAC will examine the effects of catastrophic coverage on beneficiary out-of-pocket payments after legislation is enacted.

Medigap insurance policies are designed to provide coverage for cost-sharing obligations built into Medicare. These policies, either purchased individually by beneficiaries or provided by former employers, cover 72 percent of aged Medicare beneficiaries; an additional 8 percent have supplemental coverage from Medicaid. Therefore, 20 percent of beneficiaries have Medicare coverage only. Premiums charged for Medigap policies, relative to other health insurance policies, are high, especially for beneficiaries who purchase such coverage individually. The risk of having large out-of-pocket costs associated with an acute episode of care, however, is substantially less for this group than for beneficiaries covered only by Medicare.

The movement of services from inpatient to ambulatory care settings has had a mixed effect on beneficiary out-of-pocket costs. In general, when services for an entire episode of acute care are shifted out of the hospital, the beneficiary tends to benefit financially. This is because the copayments under Part B of Medicare are typically less than the inpatient deductible under Part A. When some services associated with an inpatient stay are provided before and after hospitalization, however, the beneficiary tends to suffer financially because of the additional cost-sharing requirements for non-inpatient services.

EXPENDITURES AND COST-CONTAINMENT ACTIVITIES

National health expenditures continue to grow faster than general inflation in the economy. As a result, the proportion of gross national product devoted to health services continues to rise. This proportion grew to 11.2 percent in 1987. Efforts to control expenditures by both private and public sector purchasers of health services have not yet reduced the overall rate of growth in health spending. Nevertheless, purchasers continue to initiate cost-containment programs, principally those that use financial incentives to control spending.

The distribution of sources of payment for health services changed during the latter part of the 1980s. The government share of total health spending declined from 40.0 percent in 1985 to 38.6 percent in 1987, mainly because of a relative reduction in payments to hospitals under the Medicare program. The proportion of total payments directly from patients and from private insurance both went up slightly during this period.

In the five-year period spanning 1978 to 1983, Medicare spending more than doubled, from $26 billion to $58 billion. Since then, with the decline in overall inflation, there has been a slowdown in the overall growth rate and different trends for Part A and Part B of Medicare. The Part A share of total expenditures fell from 68.4 percent in 1984 to 61.5 percent in 1987. The shift of services out of the inpatient hospital setting to ambulatory care settings has contributed to the changing expenditure pattern. The shift pertains both to entire episodes of care, as in the case of lens implants performed in ambulatory surgery centers, and to portions of episodes, as in the case of post-acute services delivered after shortened hospital stays.

Several states have established programs to contain their health care costs. In 14 states, for example, Medicaid now pays for inpatient hospital care on the basis of DRGs. A few states have instituted all-payer systems for purchasing hospital services, while others have established programs for enrollment of Medicaid eligibles into health maintenance organizations (HMOs) and other capitated health plans. By the end of 1986, there were more than 800,000 Medicaid enrollees in HMOs in 25 states.

Employer-sponsored health insurance, covering over 160 million workers and family members in the United States, has changed dramatically during the 1980s. Employers have stressed increased employee cost sharing under traditional plans and increased enrollments in alternative systems—HMOs, preferred provider organizations (PPOs), and other managed care programs. HMOs and PPOs accounted for about one-fourth of employee enrollment in 1987, an impressive increase from the early 1980s. Managed care systems generally make extensive use of preadmission review, second surgical opinions, and other utilization review techniques. Despite these initiatives, the costs of private health insurance have risen in recent years, as has the proportion of incurred costs borne by employers.

CHANGES IN THE HEALTH SYSTEM

Movement toward the use of HMOs and other alternative financing systems and the shift of services from inpatient to outpatient settings both began well before the implementation of PPS. Numerous types of ambulatory facilities have developed more recently—ambulatory surgery centers, diagnostic imaging centers, and free-standing cancer centers, to name a few. The number of hospitals and units of hospitals excluded from PPS has also grown. These include psychiatric, rehabilitation, long-term, and pediatric hospitals and units.

Changes in health care delivery and financing are not confined to acute care services. In fact, it is in the area of post-acute care services that ProPAC has expressed its principal concern for potential adverse consequences of PPS and other financing changes. Trends in the use of home health, skilled nursing, and hospice services give some indication of whether the nation's health system is providing adequate services to complement shortened hospital stays. Recent declines in the use of Medicare-covered home health and skilled nursing care have raised concerns about whether beneficiaries who need post-acute care services are consistently receiving them.

Paying for long-term care services and for health care services received by the uninsured are two persistent problems that may have been exacerbated by recent changes in public and private health care financing. Relatively few public and private mechanisms exist to cover the costs of long-term care. Aging of the population and deemphasis of acute in-hospital care tend to magnify this problem.

Frequently, the uninsured turn to hospitals for both primary and acute medical care, and many hospitals are finding it difficult to fund uncompensated services. This problem is intensified by limitations on reimbursement under PPS and other payment systems. Tighter payment rates and fiercer competition have reduced the willingness and ability of hospitals and other health care providers to subsidize the costs of uncompensated care.

Approximately 35 million Americans lacked health insurance in 1985. While the uninsured use fewer services than insured persons, the costs of caring for this population are substantial. Estimates of the costs of uncompensated care vary widely—they are probably in the neighborhood of $10 billion when all types of care are considered. Much of the burden of caring for the uninsured falls on inner city public and teaching hospitals.

Representative **Scheuer**. Thank you very, very much.

Now we will hear from Mr. Jack Owen, executive vice president of the American Hospital Association.

STATEMENT OF JACK OWEN, EXECUTIVE VICE PRESIDENT, AMERICAN HOSPITAL ASSOCIATION

RECENT HOSPITAL TRENDS

Mr. **Owen**. Thank you, Mr. Chairman.

I guess, as Dr. Young says, I am the heavy in this issue this morning. All of the comments go to the problems that seem to be created by hospitals.

I would like to not read from my prepared statement, but just make some comments in light of what you said earlier and just raise a couple of issues.

First of all, as you heard from Dr. Young, the hospitals have, I think, done their part as we went into this whole issue of prospective payment. There is efficiency in the hospital system and, in the 4 years, admissions have dropped an average of 5.2 percent annually. In the first 3 years, hospital beds have decreased in this country, although we still have some empty beds, but they are down about 4.4 percent since 1983. Occupancy rates have decreased about 10 percent during that time, we employ about 100,000 fewer people than we did when we started the PPS program in 1982.

The problem that you have cited and everyone else has cited is that it has had no effect on the gross national product total number of dollars that were spent for health care. That goes back to what I think your discussions with Mr. Anderson brought out this morning, and that is that the public has a great expectation that they should have more health care.

I read an article the other day that Robert Blendon, who is professor and chairman of the Harvard School of Public Health had prepared on some surveys that he had done, and am quoting really from that article. It said that "in 1986 most Americans believed," 54 percent that is, "that the U.S. spends too little rather than too much for health services. In fact, given a choice, 63 percent of the public would favor making health care more available to everyone who does not yet have it, rather than lowering the nation's health spending."

I think the interesting thing about that survey, however, is that when you talk to someone about their own health services, then they are concerned very much about the rising cost of health care.

HOSPITAL CHALLENGES

The second issue I would like to just touch on, covered more completely in my prepared statement, is the challenges that the hospitals are facing. We have some 37 million uninsured people in this country who are getting health care. One of the things that is a misconception by many people is that those people are getting no acute health care, and that is not true. Hospitals are taking care of them. As you know, some of your fellow colleagues have passed legislation here in the House, antidumping legislation so to speak, that hospitals must take care of anyone who comes to their door.

And those people are being taken care of, and somebody else is paying for it. There is a problem that the hospitals face.

Representative **Scheuer**. And the emergency room is the family doctor.

Mr. **Owen**. That is correct.

I know of no other industry in this country, business or whatever you want to call it, even social program, where expectation is such that if you go there you should get a service whether you have any money or not.

Even in our welfare situation, if you walk into a grocery store, you can't expect the grocer to give you a loaf of bread. Hospitals are no different than other kinds of organizations. They have to pay nurses' salaries and they have to pay costs of medication. So that is a most difficult situation.

Hospitals have been practicing cost containment. As was mentioned, I think Mr. Anderson pointed out, we have expected that someone will do the rationing and we are beginning to see that for the first time. We are beginning to witness what I like to call a "brownout" that is occurring.

Someone said we are going to have lots of hospitals close their doors and go out of business. I don't think that is going to happen. We are seeing services being curtailed. The most vivid example that has occurred in the last few months has been the use of TPA which is an anticoagulant for cardiac patients. This drug is a new drug on the market. It costs about $2,200 per case, and we expect about 300,000 beneficiaries over 65, medicare patients, will utilize this drug this year, and yet there was no payment allowed in the DRG payment for this.

In effect, the Government has said, you can provide it, but we are not going to pay you for it. And the issue becomes a very crucial one to hospitals because the question is, should patients have this particular drug and should hospitals make it available for the under-65 where Blue Cross and other insurance companies pay for it, and then if someone over 65 comes in and they don't give it, and a problem occurs, then the hospital is subject to a malpractice suit for not following community medical practice.

We are caught in a situation where there is a demand out there from the public and the Government not being forthright in coming out and saying, this is all that we are going to allow by rationing of services, and we are not going to pay for it anymore; that is up to you if you want to provide it as a participant of the medicare program. A hospital cannot charge a patient, so we have a problem.

QUALITY AND EXPECTATIONS

Let me just talk a minute about quality. Quality is one area of concern in the hospital field and has been for many years before the Government ever got into the financing of health care. The Joint Committee on Accreditation of Hospitals, with the cooperation of the American Hospital Association, the American Medical Association, the College of Surgeons, and the College of Physicians, have been looking at ways in which they can demonstrate that the quality of care continues.

The problem that we are running into is that each time a new drug or a new piece of technology is designed, people expect more. Patients who are going into hospitals with some very serious illnesses not only expect to be cured, but expect to feel better than when they went in.

A good example of the kind of health care costs and expectation that we see was demonstrated just this past week in the Washington Post when it carried a front-page article of a $10 million award to some parents of a child who was——

Representative SCHEUER. Denied oxygen at birth.

Mr. OWEN. No, it was not denied oxygen. It was a question of how soon should the physicians have done a cesarean section. The question was that the child's heart rate had started to go down. I am only saying what I saw in the paper.

But the point is, 10 years ago, they were unable to do that fetal monitoring, so the question would not even have come up.

Representative SCHEUER. The child would have died.

Mr. OWEN. The child would have died, that is right.

But the expectation of people today is that every birth has to be a perfect birth. If it is not a perfect birth, then there is something wrong with the hospital.

Representative SCHEUER. Sue the doctor and the obstetrician.

Mr. OWEN. Yes. The obstetrician and the hospital were both sued.

So the question is that when you see that kind of thing happening out there, you can understand the real problem that we have.

POLICY RECOMMENDATIONS

Let me just close by saying that I think as we look to what we are going to do in the future and some suggestions you had asked that we might make, I think there are three things that need to be done if we are going to have any kind of control over what is occurring in the health care field.

First of all, we have to have some predictability, predictability for the financing of health care. This year in the medicare program which provides 40 percent of the revenue for hospitals, we have had three rates in fiscal year 1988.

We started out October 1 with last year's rate; we then got an increase, and then it was reduced by Gramm-Rudman and we had the third rate that started March 1. If you were going to plan, as a manager of a hospital on what you were going to provide in services through a budget, you would need to do it at least a year in advance and you would like to know exactly what those payment rates were going to be. So predictability has to be there.

The second is the adequacy of funding, and I think Dr. Young pointed out that revenue has been going up about half of what the costs have been going up as far as the cost of caring for the elderly, which is 40 percent of hospital revenue. We have to have an adequate rate.

Then, finally, we have to have some equity in this health care field so that hospitals are being paid for what they do, not for where they are located, which is the situation that we have right now.

Rural hospitals in this country are suffering a great deal because of lower rates. There is quite a spread between what a hospital in a rural area is paid and a hospital in a metropolitan area. We must correct that inequity.

So, with that, Mr. Chairman, I would be happy to answer any questions and I appreciate the opportunity to testify here this morning.

Thank you.

[The prepared statement of Mr. Owen follows:]

PREPARED STATEMENT OF JACK OWEN

SUMMARY

Private- and public-sector health policymakers face tough challenges. They must devise ways to provide health care for millions of the nation's medically uninsured, protect the elderly from catastrophic medical costs, and ensure adequate levels of care for persons protected by public programs.

Although the nation's pluralistic health delivery system has gone far in ensuring access to health services for all Americans, more needs to be done. The system is in disrepair. Gaps in benefits and coverage are growing, and the health care safety net threatens to unravel. As ways to patch these holes are explored, policymakers have an obligation to preserve the health care delivery system's stability.

Ensuring access to health services for all Americans will require a cooperative public-private sector commitment. Hospitals will continue to do their part to attain this objective..

Hospitals have responded to Medicare reimbursement changes by greatly increasing their efficiency. At the same time, hospitals have been forced to accept major Medicare payment cutbacks since 1983 as a result of overriding congressional concern with record federal budget deficits, even though Medicare has not contributed to the nation's deficit problem. As a result hospital operating margins under Medicare are approaching dangerously low levels that could lead to further hospital closings and restricted access to patient care.

Actions are needed now to require businesses to provide health insurance for their employees, to expand Medicaid coverage, to enact catastrophic care protections and especially long-term care benefits for the elderly. Americans expect the best health care this country can, and should, deliver now and in the future.

On behalf of its more than 5,100 member hospitals and the millions of Americans they serve annually, the American Hospital Association welcomes this opportunity to testify on the future of health care in America. It is still too early to assess fully the impact of health reforms during the past half decade. But AHA believes that such reforms have had, and can continue to have, a generally positive effect on the organization and delivery of health care in this country. Though the development of prudent, responsive federal health policy has too often been undercut by deficit reduction pressures, overall, the reforms that have been enacted demonstrate the effectiveness of incentives as a means of containing costs. They also point to the conditions that must be met if long-term benefits are to be realized from new approaches to the financing and delivery of care.

The challenges confronting policymakers in both the private and public sectors are many and complex. Among those challenges are:

- For the millions of Americans have inadequate private insurance coverage and are ineligible for public programs; ensuring access to effective, high-quality medical care.

- Protecting elderly Americans from the catastrophic costs of illness including long-term care; and

- For the insured and those protected by public programs, ensuring the adoption of policies that contain costs without rationing care or compromising quality.

Achieving each of these goals will require a committed effort. There are no easy solutions. The only lasting solutions will be those that enable providers, patients, and purchasers to work together.

ENSURING ACCESS

U.S. hospitals and other health care providers have achieved their preeminent status under a pluralistic delivery system. This nation has no centrally administered, overarching health care policy, but its mix of public and private benefit programs seeks to guarantee freedom of choice and access. This arrangement has enabled us to avoid the health care rationing commonplace in other nations. It also has protected many of the less fortunate in our society. In fact, public programs now are supplemented by more than $7 billion annually in hospital-provided unsponsored care. As a percentage of total hospital costs, unsponsored care rose from 3.6 percent in 1980 to 5.0 percent in 1986.

More must be done to shore up the system. Ensuring access to adequate health care services continues to be the number one challenge facing everyone concerned about the future of our health delivery system. Despite years of progress, the statistics remind us of the enormous task ahead of us:

- 37 million medically uninsured Americans are ineligible for either Medicare or Medicaid.

- Medicaid only covers 38 percent of those below the federal poverty level, down from 65 percent a decade ago.

- Medicaid has become primarily a supplemental insurance program for individuals already receiving partial coverage under Medicare. In 1984, barely one-fourth of Medicaid expenditures were spent on acute medical care for the non-Medicare eligible poor.

- Unsponsored care costs continue to be unevenly, but widely, distributed. Although voluntary hospitals provided the largest amount of unsponsored care in 1984--$4.2 billion, public hospitals are bearing the heaviest burden--unsponsored care accounted for 4.8 percent of their total costs.

- To pay for care provided to the medically indigent, private payers must on average pay a hidden tax of 10.6 percent, making the private sector one of the most important sources of funding for the medically indigent.

ENSURING QUALITY AND PROMOTING EFFICIENCY

Many of the previous witnesses in this series have focused on the issue of rising health care costs. Cost containment is not a new issue. After more than a decade of debate, Congress adopted a new approach to provider payment in 1983 that was intended to establish positive incentives to reward efficiency. That system, the DRG-based prospective pricing system (PPS), has been in place for more than four years.

During that time, the effectiveness of incentives has been demonstrated. Hospitals have responded to PPS by instituting broad operational efficiencies to cope with radical changes in the manner hospitals are reimbursed by government and private payers:

- Medicare admissions have dropped at an average annual rate of 5.2 percent in PPS' first three years.

- There has been a 4.4 percent decrease in the number of hospital beds since 1983.

- Hospital occupancy rates have decreased 10.1 percent during that time.

- Hospitals employ about 100,000 fewer people now than they did in 1983.

As a result of these and other factors, Medicare outlays have been held well below projections, and the solvency of Medicare's Hospital Insurance trust fund has been assured into the next century.

Moreover, U.S. hospitals have responded to the challenge of ensuring universal access to high-quality care despite radical changes in the health care marketplace. But five consecutive years of inadequate federal financial support threaten to render that task impossible.

Hospitals understand the depth of the current budget deficit crisis. Dependent on Medicare and Medicaid for 50 percent of total revenues, however, hospitals have suffered disproportionately because funding for those programs has not kept pace with increases in costs of delivering care. While the hospital insurance trust fund has not accounted for one penny of the deficit, Medicare has absorbed nearly 25 percent of all non-defense cuts and 16 percent of total budget cuts in the past seven years. The proportion of these cuts is far out of line in consideration of the fact that Medicare outlays represent only 7.5 percent of total federal outlays. More than $26 billion has been cut from the hospital side of the program since 1982. As a direct result, 40 percent of the nation's hospitals will suffer losses treating Medicare beneficiaries this year.

Still, public concern about rising health care costs continues. Those cost concerns recently have been magnified by questions about the appropriateness and quality of medical care.

Any solution to the problem of rising costs, however, requires the problem itself to be identified clearly. The growing share of the gross national product (GNP) devoted to health care can be viewed as an increase in the part of a fixed pie that is being spent on medical services. Alternatively, and more realistically, the increase should be viewed as the health care sector's contribution to new jobs, economic growth, and generally to the public's well being. The nation's more than 6,000 hospitals are a vital sector of the nation's economy--a $200 billion business that employs 3.6 million persons.

Short-sighted cost concerns, also, must not undercut the long-term stability of our nation's health care system. The real issue is whether medical services are efficiency used and produced. AHA continues to believe that the best means of ensuring both efficiency and quality lies in the design and implementation of financing systems that reward hospitals and other providers for efficiency, and the development of systems for evaluating quality that provide consumers, purchasers, and providers and useful valid and useful information.

Ensuring the stability of our health care system should be of paramount importance if we seek continued access to high-quality health care for all Americans.

But hospital finances are even now in a precarious state. Urban hospitals that care for a large proportion of Medicaid and uninsured patients, rural hospitals that face a shortage of health professionals, hospitals with aging facilities, and hospitals located in economically depressed regions all face unique problems. Those problems have weakened the financial health of hospitals. Operating margins plunged to a negligible 0.1 percent in 1987. Without adequate margins, the nation's hospital infrastructure will deteriorate. The cost of restoring the system to health will far exceed that of maintaining it. Erosion of operating margins also was a factor in the record 79 community hospital closures in 30 states last year. One half were in rural areas, leaving too many Americans without reasonable access to care.

A VISION FOR THE FUTURE:
A PUBLIC-PRIVATE PARTNERSHIP--MAKING THE COMMITMENT

A lasting solution to the problem of medical indigence will require both public- and private-sector actions. To increase the availability of adequate private health insurance, several actions are necessary.

AHA recently endorsed S.1265, introduced by Senator Kennedy, that would make the provision of health insurance coverage a requirement for doing business, in much the same way that paying a "minimum wage" is a condition of doing business in the United States. Although some have opposed the Kennedy bill on the grounds that it would impose a substantial burden on business, it should be recognized that all Americans pay the cost of inadequate insurance protection. And big businesses, among which private insurance is nearly universal, pay twice: once for their own employees, and once for those who are not insured, in the form of higher prices for medical care.

Mandating insurance coverage is a major step toward ensuring access to care and the equitable distribution of the cost of medical indigence.

The federal government also should strengthen tax incentives to encourage both individuals and small employers to obtain health insurance coverage, and to make such insurance coverage affordable. States also should support private insurer, employer, and provider efforts to develop alternative sources of affordable insurance. Among the options that should be explored are the formation of multiple=employer insurance arrangements and the development, with providers, of financing and delivery systems to manage effectively utilization and costs.

Even if these actions are taken, it is clear that the government will have to continue playing a major role in ensuring that health care services are available to all Americans.

As such, public programs to finance care for the medically indigent who are unable to obtain private insurance should be restructured and extended.

Medicaid should be restored to its original role of providing protection for those Americans who cannot obtain private insurance. To that end, Medicaid eligibility should be expanded and uniform eligibility standards established under state Medicaid programs, and adequate payment levels assured.

In recognition of the fact that Medicaid has become a program of supplemental long-term care insurance for the elderly, the AHA recommends restructuring the Medicaid program into three distinct parts:

- A program of acute care coverage for the poor;
- A program to purchase supplemental acute coverage for low-income elderly and disabled under Medicare Part B; and
- A program of long-term care insurance, funded by either the states or a combination of state and federal appropriations.

CATASTROPHIC PROTECTION

Ensuring that all Americans have access to at least a minimum amount of health care coverage would still leave thousands of families with the threat of financial disaster should they face a catastrophic illness or injury.

Despite the progress that has been made over the past 20 years, catastrophic expenses for medical care remain a very real problem for a significant number of Medicare beneficiaries. These expenses are rarely, however, the result of acute inpatient medical care. Far more pressing needs arise from services that are not covered by current Medicare benefits, especially long-term care.

The need for long-term care coverage is underscored by the increasing emphasis being given to alternatives to treatment in acute inpatient settings. Medicare reforms are needed to improve beneficiary coverage. But legislation implementing those reforms has been piece meal. In addition, changes are implemented before anyone has any real sense of the long-term implications for the organization and delivery of care to Medicare patients. Catastrophic protection is one element of the needed reforms, particularly if combined with the development and implementation of innovative delivery and financing arrangements. Although the catastrophic bill currently before Congress addresses some of the gaps in coverage, it leaves untouched the principal source of catastrophic medical expenses for the elderly: long-term care.

The responsibility for financing long-term care has been, and probably will continue to be, shared by all segments of society: individuals, the private sector, and state and federal governments. We must encourage individuals to provide for their long-term care needs to the extent permitted by their income as a way to shield themselves from catastrophic expenses of chronic illness. In addition, we must ensure access to long-term care when individual resources are inadequate and establish a more humane alternative to "spend down" requirements as a precondition for eligibility under public programs. People should not have to waste away what limited assets they may have simply to qualify for limited government assistance.

Specifically, AMA has previously recommended:

- The development of private-sector alternatives for financing long-term care, encouraged through tax incentives and demonstration projects supported by both the public and private sectors;

- An increased emphasis in public programs on the development of alternative methods of delivering care that keep those with chronic illnesses out of institutions, when appropriate; and

- The adoption of alternatives to the current "spend down" requirements of Medicaid to prevent the impoverishment of the dependents of those with chronic illness.

AHA is currently reassessing Medicare policies to identify how these goals might be carried out most effectively . In pursuing these reforms, it is important to remain sensitive to differences in Medicare beneficiaries' needs and resources, as well as variations from community to community in the way in which patient needs are, and can be, met.

CONTAINING COSTS

As has been noted by witnesses at earlier hearings in this series, the adoption of PPS under Medicare was followed by a sharp reduction in the rate of increase in hospital costs. Recently, rising medical costs and insurance premiums have focused attention on the disparity between Medicare PPS payments and the increased costs incurred in providing covered services. The cost increases would be cause for concern if they were attributable to deteriorating hospital efficiency, but they are not.

Instead, AHA believes two major trends account for those increases:

- The mix of patients being served today. Since 1983, hospitals are admitting more severely ill Medicare patients which means the relative costliness of treating each of these cases is increasing.

- The shifting of less severely ill patients to outpatient settings. The effect of that shift is an increase in outpatient costs.

Although hospitals have responded to PPS incentives by treating patients in the most efficient and appropriate setting, hospital costs continue to increase.

Several factors help explain this phenomenon:

- First, the marketbasket used by HCFA appears to understate the impact of inflation on costs, chiefly because it gives little weight to changes in wage levels among hospital employees. The labor component of HCFA's marketbasket, which relies for the most part on wages paid to other than hospital employees, rose only 3.9 percent in 1987, compared to an increase of 5.1 percent in hospital employee wages reported by the Bureau of Labor Statistics for the same period, and an increase of 8.6 percent in average compensation per full-time equivalent reported by hospitals participating in AHA's National Hospital Panel Survey. In part, the faster rate of increase in hospital wage levels is attributable to shortages of nurses and other professional staff. Because labor accounts for more than 75 percent of hospital operating costs as reflected in the PPS rate, the HCFA marketbasket adjustment to PPS prices substantially understates the impact of inflation on hospital costs.

- Second, though advances in medical technology offer patients new hope of receiving less invasive treatments to reduce pain and risk, many new technologies and procedures require the use of more costly equipment such as computerized angiograph tomography (CAT) scans, magnetic resonance imaging (MRI), and nuclear magnetic resonance (NMR). Use of expensive new drugs such as tissue-plasminogen activator (TPA), which costs more than $2,300 per dose compared to other therapies costing less than $200 per dose, also increases the cost of providing hospital services.

- Third, hospitals have not benefited from the slower rate of inflation that has been seen in the economy as a whole. Inflationary pressures on hospital costs, although lower than in the early 1980s, continue to force hospital costs up at a rate higher than either the Consumer Price Index or growth in many other sectors of the economy. These inflationary pressures have been exacerbated by a growing shortage of health professionals, particularly registered nurses, that has occurred simultaneously with an increase in the demand for more highly skilled professional staff.

- Finally, hospitals' application of universal precautions as a response to the AIDS crisis has contributed to significant increases in hospital costs. The high costs of HIV testing and implementing those precautions through in-service training of hospital staff and the use of gloves, goggles, and other protective gear already has dramatically increased costs for many of the nation's hospitals.

What can be done to contain costs in the face of these pressures? AHA believes that the appropriate response is to return to the basic principles that led to the adoption of PPS. If allowed to operate, prospective payment offers benefits to Medicare beneficiaries in the form of a fiscally secure Medicare program and access to state-of-the-art medical treatment. PPS was originally created to provide more predictable payments and greater confidence that health services are being purchased prudently. Realizing those benefits requires a commitment to allow the incentives inherent in the system work. This commitment must be reflected in predictable, adequate, and equitable prices. None of those three features now exists.

- Predictability: Medicare payment policies have changed annually, often months after the start of both the federal and hospital fiscal years to which they apply. These uncertainties undermine the basic foundation of prospective pricing: the incentive to improve efficiency through effective planning and management. Uncertainties over the annual update factors and payment policies make it virtually impossible for a hospital to project its financial performance and plan changes in its services.

- Adequacy: Since 1985, Medicare prices have been increased by only 3.4 percent, while inflation as measured by HCFA's own hospital marketbasket has increased an estimated 11.5 percent. As noted above, AHA also believes that the HCFA marketbasket substantially understates inflation in the prices hospitals must pay for resources. The result of these policies has been a sharp reduction in hospital operating margins and a sharp increase in the percentage of hospitals operating at a deficit.

  Most analysts are projecting hospitals' FY 1988 PPS payments to be below costs, with negative margins in aggregate, and particularly severe deficits affecting certain groups of hospitals such as rural facilities. The result, if current trends continue, will almost certainly be a reduction in the ability of hospitals to meet the expectations of Medicare beneficiaries for access to state-of-the-art medical care.

- Equity: Inequities are important both because they threaten the ability of individual hospitals to continue meeting the needs of the Medicare patients they serve and because they threaten the overall adequacy of funding. A sustained and significant effort must be mounted to address the underlying sources of the major inequities. AHA has developed several recommendations to address these inequities and is prepared to work with HCFA and Congress to implement them. The result of such cooperative action would be a payment system that more fairly bases payment on the types of patients treated and on local differences in resource prices. Several other recommendations address the special needs of hospitals serving isolated communities and call for recognition of hospitals' medical education costs and the role of hospitals in meeting the sub-acute care needs of patients.

Although PPS provides a system for ensuring efficiency in the delivery of inpatient care, the trend in health services has been away from inpatient treatment. Yet there is no payment system comparable to prospective pricing for outpatient services. Over the past five years, congressional budget reconciliation acts have included a patchwork of policies changing the payment basis for outpatient care. By October 1 of this year, for example, a single outpatient encounter between a Medicare beneficiary and a hospital may involve the application of up to four different payment rules. The direction in which these changes are pushing the delivery system is unclear, but they are unlikely to promote the coordination of care that is essential if costs are to be contained without impairing quality. The effect of these changes in outpatient payment on the ability of hospitals to continue delivering state-of-the-art treatment to the Medicare beneficiaries and communities they serve is unknown now.

Promoting Quality

There is probably no issue that provokes as much anxiety among hospital managers as that of how to ensure the delivery of high-quality care. They wonder whether the push for "improved efficiency" might not also be interpreted as impaired quality by both patients and physicians. As utilization review programs become increasingly stringent, it will be necessary to be more vigilant to make sure that access to needed care in appropriate settings is not impaired.

The experience of the past five years under PPS has demonstrated the need to build positive incentives to improve efficiency in the payment system and the importance of promoting appropriate utilization. To date, however, utilization review programs have taken an essentially regulatory approach. These systems often put providers in the position of acting as an intermediary between the patient's insurer and the patient. Ultimately, they may force providers to choose between being paid for what they consider to be inappropriate care or not being paid for what they consider to be appropriate care.

What is needed are methods of ensuring appropriate utilization that incorporate many of the features of prospective pricing: positive incentives, predictability in the form of explicit standards for determining whether services will be covered by insurance, and flexibility in meeting individual patient needs. Such a system would rely on true peer review and education as the most effective means of changing inappropriate utilization patterns.

An essential element of these efforts to promote more effective patterns of utilization is the development of better methods of evaluating quality, including development of valid indicators of quality. The experience with the publication of mortality data by HCFA demonstrates the need for better methods of evaluating quality.

CONCLUSION

The major health policy issues that are on the national agenda today have been with us for many years. There are no quick or easy solutions to them, and with each passing year the need to address them becomes more urgent. Finding lasting solutions to them will require efforts to improve the efficiency with which care is rendered. It will also require a commitment to support the programs needed to ensure access for the medically indigent. Gaps in benefits and coverage are growing, and the health care safety net threatens to unravel. Given our national deficit problems, hospitals do not suggest that funds be diverted to health care from other programs. A pay-as-you go approach is the only reasonable philosophy, and additional revenues must be identified to bring existing programs to par or to add services.

Both the delivery and financing of health care are undergoing rapid change, and the end is not yet in sight. The result can be better, more effective, and less costly care for the American people. To make sure that that is the result, providers, consumers and policy makers must work together to build a health care system that provides the kind of care the public wants and needs, at a price that it is able to pay. Americans expect the best health care, and disruptions in the way they receive that care would be met with public outcry.

Representative SCHEUER. Well, I have several questions to ask you, Mr. Owen, but I am going to wait until the other witnesses have finished. I appreciate your testimony.

Now we will hear from Ms. Susan Gleeson, the executive director of technology/management department, Blue Cross-Blue Shield Association.

We are very happy to have you here, Ms. Gleeson. Please take the same 7 or 8 minutes and then we will have some questions for you.

STATEMENT OF SUSAN GLEESON, EXECUTIVE DIRECTOR, TECHNOLOGY/MANAGEMENT DEPARTMENT, BLUE CROSS & BLUE SHIELD ASSOCIATION

BLUE CROSS-BLUE SHIELD HOSPITAL PAYMENT PRINCIPLES AND PROGRAMS

Ms. GLEESON. Thank you very much, Mr. Chairman.

We appreciate the opportunity to appear before the subcommittee and to testify. I will follow your directive to be as casual as possible.

I would first like to describe the uniqueness of Blue Cross and Blue Shield because it relates to the recommendations that we will make. First of all, we have considerable experience in hospital payment. In our private business, we underwrite hospital benefits for 77 million Americans.

In addition to that, the Blue Cross and Blue Shield Association is the prime contractor for medicare part A. We have a lot of variety in our system.

Representative SCHEUER. A lot of what?

Ms. GLEESON. Variety.

Representative SCHEUER. Variety.

Ms. GLEESON. We have 77 Blue Cross and Blue Shield plans. They are all independent, not-for-profit organizations. They operate in their local communities. As a result, there are a variety of payment systems and strategies used throughout our system.

Today, I am going to highlight the payment principles and programs that are characteristic of our plans and that represent the unique strength of our plans, One characteristic of Blue Cross and Blue Shield coverage is that subscribers are insured for service benefits, not indemnity benefits. This means that subscribers are assured that they will receive the services that are medically necessary for the treatment of their illness and the cost of that care will be covered. Coverage is not limited to a dollar limit indemnity.

To maintain service benefit contracts, Blue Cross and Blue Shield plans have to be prudent purchasers of health care services on behalf of their subscribers. The mechanism for purchasing these services are the contracts between the plan and the hospitals. Plans have contracts with over 6,000 hospitals, virtually every hospital in the United States. These contracts are the basis for implementing three important principles of purchasing.

DETERMINE UNIT PRICE OF SERVICE

The first step or principle in purchasing is to establish the price per unit of service. To do this, each plan has a hospital payment program. In designing these programs, plans consider the hospital environment, the regulatory environment, the account and subscriber demands, the competitive demands and, probably the most important issue, broad access for Blue Cross and Blue Shield subscribers.

Because these programs are designed and implemented locally, no two programs are alike. However, they do have a common characteristic, which is, that Blue Cross and Blue Shield plans negotiate the price with each hospital and this is contained in the contracts. The contracts specify the rate and the method of payment.

MONITOR UTILIZATION, APPROPRIATENESS, AND COST

Regarding payment methods, there are prospective methods, retrospective methods, methods that control costs and effect utilization, but the botton line is to purchase quality health care services at a reasonable price. And no payment method alone is effective in controlling cost and assuring quality. You need additional controls on utilization, additional controls on quality.

Representative SCHEUER. Are you going to tell us what kind of controls on utilization and quality?

Ms. GLEESON. Yes.

My second point is that payment programs need to be complete programs that monitor both utilization and medical appropriateness. We have been innovators and developers in this field. Our first generation of programs focused only on utilization. They were retrospective, and reviewed care that was already provided. They generally looked at admissions and length of stay. Remedial action was directed against providers who fell outside of the norm, but we didn't question the norm itself.

Plans now use a second generation of programs that not only look at utilization but also look at medical appropriateness. In our system, we call these benefit management programs. These programs are not retrospective. They are interactive, they are dynamic, they help patients enter and interact efficiently within that health care system.

Examples of benefit management programs are preadmission review, concurrent review, second surgical opinion, discharge planning, and individual case management.

Once the price, type, and quality of service are established, the third function of the plan as a purchaser is to ensure that the plan is paying only for the services it contracted for and that was delivered. To accomplish this, plans use a variety of audit programs to determine if hospital charges are accurate and consistent with services actually delivered.

The success of the Blue Cross and Blue Shield plans in purchasing health care services at reasonable prices depends on the successful implementation of all of these programs: payment, utilization, medical review, and audit. Our programs have had a significant impact.

For example, our inpatient admission rate per 100,000 subscribers decreased by 28 percent from 1980 to 1986, for an average annual decrease of 3.4 percent. The average annual decrease for all admissions in the United States during the same period of time was about 1.6 percent.

Representative SCHEUER. An increase of 1.6 percent.

Ms. GLEESON. A decrease.

While our programs have been successful in containing costs, we want to make sure that they are not containing costs at the expense of quality. The Blue Cross and Blue Shield organization has a major commitment to quality and a long history in it. We think quality can be addressed by focusing on what is medically appropriate and by monitoring the care that is delivered.

We have two programs that address medical appropriateness. The first one is the medical necessity program. We started this program back in 1977. The mid-1970's was our first health care cost crisis, and we started to examine whether we are paying for services that we shouldn't be paying for.

The focus of this program is on obsolete procedures and categories of service that are beneficial, but are used both appropriately and inappropriately. The goal of this program is to educate both providers and Blue Cross and Blue Shield plans on the appropriate use of these services.

Our most recent product, the diagnostic testing guidelines, was developed in conjunction with the American College of Physicians. They address the appropriate use of preoperative chest x rays and electrocardiograms and also common laboratory tests. This program is effective. It saves money because we are not paying for things that are inappropriate. It is also effective in changing physicians' behavior patterns because it is largely supported by national medical organizations and is generally accepted by the provider community.

Representative SCHEUER. Generally accepted by the provider——

Ms. GLEESON. Provider community.

Representative SCHEUER. Doctors and hospitals.

Ms. GLEESON. Yes, I would say generally. And I think that the reason we get the support locally is because when we develop the guidelines, we work with national medical organizations and get their endorsement of the guidelines.

For example, our recent guidelines on diagnostic testing were endorsed by the American College of Physicians. Parts of the guidelines were endorsed by the American Academy of Pediatrics and the American Society of Anesthesiology.

The second program which addresses appropriate medical utilization is called the technology evaluation coverage program, the TEC program. The focus is a little different. The program evaluates new technologies for coverage. To be eligible for coverage, there must be scientific evidence that demonstrates that the use of the technology will have an impact on health outcome: length of life, ability to function, and the quality of life.

The other component of the TEC program which we think is somewhat unique is cost analysis. One of the problems with cost is when technologies are initially put on the market, they may be overpriced. This program has attempted to provide information to plans so they can appropriately price technologies when they are initially introduced.

Following up what Mr. Anderson said on low osmolarity contrast media, most of the studies find that these contrast media were 10 to 20 times more expensive. What we did was investigate how much of this new contrast media was needed for each procedure and the cost per procedure. Our estimates are that this contrast media is not 10 to 20 times more expensive, but only six to seven times. That information was provided to our plans so when they begin reimbursing for this contrast media, they will not pay outrageous prices.

Representative SCHEUER. They will not pay what?

Ms. GLEESON. Outrageous prices. They will not pay excessive profit margins.

Another good example is extracorporeal shock wave lithotripsy.

Representative SCHEUER. Excuse me. I didn't get that.

Ms. GLEESON. Extracorporeal shock wave lithotripsy. I will refer to it as ESWL. ESWL is a technology that uses sound waves to pulverize kidney stones.

When ESWL initially came on the market, there was only one manufacturer and the cost was similar for every buyer. However, the manufacturer estimated that the caseload these machines could handle was only 800 a year. We checked with the research sites which had already been using this equipment and their average caseload was 1,500 a year.

Also, providers overestimated utilization for ESWL. Many said that 28 percent of the people currently hospitalized for kidney stones could have ESWL treatment. In our research we found that only 22 percent could.

If you underestimate the caseload and overestimate the utilization you have overestimated the number of units that are needed. Many estimated that we needed 100 units in the United States. Our estimate was 50. This is important because if we have too many units, they will either be underutilized, which will affect price, or they will be used inappropriately.

The other concern was about charges. There were six hospitals in the United States which were using these units and were billing Blue Cross and Blue Shield plans. As I said the cost to them was similar. The charges to plans ranged from $1,400 to $4,300. When we calculated the average cost to the hospital, that cost was $927 on average. That means the institution that charged the least, $1,400, had made a profit that year of $1.4 million.

What this demonstrates is that we have to be sure technologies are effective and also that they are reasonably priced.

The second point on quality is that once we have determined the medical appropriateness, we have to monitor the actual performance. This is a relatively new concept and is becoming increasingly accepted.

Our involvement in monitoring providers' performance began in 1983 with the issue of organ and liver transplants. Here we were faced with a set of very complex and costly procedures that many hospitals essentially had the capacity to perform, but only a few at that time had the necessary experience. We encouraged the national acceptance of centers of excellence, and in order to implement this concept within our own system, we assessed every institution in the United States performing transplants, and provided that information to our member plans.

Now in 1988 we are expanding the centers of excellence concept to other services. We are developing tools to monitor institutions on a procedure specific basis.

Finally, Blue Cross and Blue Shield has the largest network of HMO's—95 HMO's providing services to over 5 million subscribers. Assessing the quality of these HMO's is one of our major initiatives. Just 1 week ago, we were proud to announce that Blue Cross and Blue Shield HMO's will be reviewed and accredited by the Joint Commission on Accreditation of Health Care Organizations.

TOMORROW'S CHALLENGES

In closing, I want to highlight the challenges that we face. One of the most immediate challenges, because it is a current problem, is how to manage cost and utilization of ambulatory services. By ambulatory, I mean outpatient hospital and any nonhospital patient care.

To do this, we need to develop better data systems plus better payment and cost management programs. Currently we are adapting some principles and programs that were used for inpatient care to ambulatory services. Plans are currently negotiating prices for ambulatory care. Also, they are focusing their medical appropriateness programs on procedures for outpatient services and they are applying established utilization management programs, such as preauthorization and second opinion, to ambulatory services.

One of tomorrow's challenges is to develop payment programs based on comprehensive and effective treatment of illnesses rather than on discrete services. Traditionally, insurance coverage has focused on benefits for types of services; for example, hospital, physician, outpatient, and home care.

To best serve subscribers, and to manage cost and quality, we need to focus on the package of services that is needed to effectively treat an episode of illness. The future will also require a greater integration of cost and quality measures in plan purchasing decisions. Such decisions will increasingly characterize the selective contracting programs that have grown in the Blue Cross and Blue Shield Plans and which have become widely accepted by the buyers of our service.

If I could briefly summarize, the purpose of this hearing was to discuss the effects of current and alternative payment methods on the provision of hospital care both now and in the future. What I have attempted to emphasize today is that the success of a payment program is not so much dependent on the payment method itself as on the integration of the payment method with other programs that manage utilization, medical appropriateness and quality.

We think that today's issues and tomorrow's issues can only be resolved around the core issues of cost and quality.

Thank you very much, and I would be happy to answer any questions.

[The prepared statement of Ms. Gleeson follows:]

PREPARED STATEMENT OF SUSAN GLEESON

Mr. Chairman and members of the Committee, I am Susan Gleeson, Executive Director of Technology Management at the Blue Cross and Blue Shield Association, the national coordinating organization for local Blue Cross and Blue Shield Plans. With me is Robert Snyder, Executive Director of Payment Management at the Blue Cross and Blue Shield Association. We appreciate this opportunity to address the Committee on trends in hospital payment among Blue Cross and Blue Shield Plans.

There are seventy-seven (77) Blue Cross and Blue Shield Plans nationwide insuring approximately 77 million Americans. Each Blue Cross and Blue Shield Plan is an independent, not-for-profit organization that operates in the local community which it serves. As a result, there are a variety of payment mechanisms and strategies used throughout the system.

I will discuss today the payment principles and programs that are characteristic of the Blue Cross and Blue Shield system and that represent the unique strengths of the Blue Cross and Blue Shield system.

The uniqueness of the Blue Cross and Blue Shield system in hospital payment is the long-established relationships between local Blue Cross and Blue Shield Plans and the hospitals in their communities. Blue Cross and Blue Shield has a 50 year history of involvement and service to local communities. We have contracts with over 6000 hospitals -- virtually every hospital in every community. These local relationships are important because they parallel the delivery of care, which is primarily delivered on a local basis. Also, these long-standing relationships are the framework for providing service benefits to our subscribers.

Blue Cross and Blue Shield subscribers are insured for service benefits, not indemnity benefits. This means that subscribers are assured that they will receive the services that are medically necessary for the treatment of their illness -- coverage is not restricted to a dollar limit indemnity. Also, the Plans' contracts generally protect the subscriber from financial liability for changes billed in excess of what the Plans have agreed to pay (other than contractually agreed upon copayments and deductibles).

To maintain service benefits contracts, Blue Cross and Blue Shield Plans have to be prudent purchasers of health care services on behalf of their subscribers. The fundamental objective of Plan payment programs is to purchase quality care at a reasonable price.

The Plan-hospital contract is the core of the Blue Cross and Blue Shield Plan payment programs. This contract is the basis for implementing three important principles of purchasing. The first is to establish the level of payment: the price per unit of service. The second is to review the utilization and medical appropriateness of services. The third is to ensure that the Plan is paying for only services that were contracted for and delivered.

The ability of Blue Cross and Blue Shield Plans to be prudent purchasers of quality hospital care at reasonable prices depends upon effectively implementing each principle. Emphasis on only one or two principles at the exclusion of others limits the effectiveness of the total program.

PRINCIPLE #1: DETERMINE THE PRICE PER UNIT OF SERVICE

The first step in purchasing is to establish the price per unit of service. To do this, each Plan has a hospital payment program that is specific to its own market area. In designing the program, the Plan considers: the hospital environment; regulatory requirements, if any; account and subscriber demands; competitive pressures; and the need to maintain access to hospital services for the broad base of Plan subscribers. Each Plan's payment program is therefore unique. However, common trends are merging among Plan payment programs.

The first trend is to use external standards to determine payment rates to a hospital. In the past, providers set their own prices. Now, most Plans base payment rates on a community or peer group standard. Rate increases are frequently set to standard economic indicators such as the Consumer Price Index. Adjustments are made if there have been dramatic and widespread changes in the cost of delivering specific services in that community.

The second trend is that Plans are moving from payment methods that affect only price to methods that control price and affect volume of services.

Earlier payment methods were one-dimensional -- they focused solely on the price. For these methods to be effective in controlling costs, the units of service needed to be closely monitored -- every aspect of utilization had to be reviewed, including admissions, lengths of stay, and services delivered.

The majority of Plans now use two-dimensional payment methods that control both the price paid and the number of services provided. These newer methods establish payment based on global categories-of-care, such as diagnostic related groups (DRGs). Fifteen Plans currently use DRGs as the basis for hospital payments.

By using categories-of-care as the basis for payment, the number of services are implicitly or explicitly controlled. A payment method that explicitly controls services would, for example, be a per diem rate with specified number of days by categories-of-care. A payment method that implicitly controls the number of services would be, for example, a fixed, prospective payment based on DRGs. This payment method provides the incentive for providers to use services judiciously.

An important point, however, is that even methods that are designed to control both price and number of services require some utilization monitoring and controls. The controls will vary based on the payment method used. For example, if a Plan uses a prospective, DRG-based method, reviewing length of stay and services delivered is not critical, but admission review is.

A refinement of hospital payment methods that is just starting to be used is the adjustment of payment levels by severity of illness. At this time, one Plan is using a system to adjust payment levels for severity of illness.

Whatever the hospital payment method -- retrospective, prospective; methods designed to affect both price and units of service; or methods designed solely to affect price -- no payment method alone is effective in controlling cost or assuring the care is appropriate. Assuring cost-effective, quality care requires an integrated approach to cost, utilization and medical appropriateness.

PRINCIPLE #2: MONITOR UTILIZATION AND MEDICAL APPROPRIATENESS

Blue Cross and Blue Shield Plans have been major innovators and developers of programs that monitor the utilization and quality of care delivered to their subscribers.

The first generation of these programs focused on utilization. These early programs were retrospective; that is, they evaluated and monitored care already provided. Both admission rates and lengths of stay were stressed and remedial action was focused on providers who fell significantly outside normal practice patterns.

Today, Plans use a second generation of programs called benefit management programs that focus not only on utilization, but also on the medical appropriateness and cost-effectiveness of care. The purpose of benefit management programs is to help the patients enter and interact effectively with the health care delivery system. These programs are interactive, dynamic and influence and monitor care in progress. This eliminates waste and improves quality. Components of the benefit management programs include: preadmission review, concurrent review, second surgical opinion and discharge planning.

Plans are quickly developing comprehensive capacity in these program areas. The percentage of Plans with preadmission review increased from 50% in 1984 to 93% in 1986. Similarly, the percentage of Plans with discharge planning programs increased from 50% in 1985 to 65% in 1986.

Plans are also developing innovative approaches to ensure the most cost-effective use of health care services for subscribers with special needs. Sixty-five percent of Plans have individual case management programs that tailor services to the needs of subscribers with long-term or complex medical problems. For example, a patient with a prolonged illness might be better off at home with special medical equipment and professional care than in the hospital. Our Plans have professional teams to establish these special home-based services.

PRINCIPLE #3: ENSURE THE PAYMENT IS ONLY FOR CONTRACTED SERVICES

Once the price, type and quality of services are established, the third function of a Plan, as a purchaser, is to ensure that the Plan is paying only for contracted services. Plans use various audit programs to determine if hospital charges are accurate and consistent with services actually delivered. Examples include audits of charges, medical records, financial records and cost reports. In 1986, 86% of Plans conducted hospital bill audit programs.

Because the Plan is purchasing on behalf of the subscriber, a related concern is to ensure that charges which the Plan rejects are not shifted to the subscriber. There are two provisions of the Plan contract that protect the subscriber from such cost-shifting. First, balance billing is generally prohibited -- this means that the provider cannot bill the subscriber for charges that are in excess of what the Plan has agreed to pay. Second, the "hold-harmless" clause protects the subscribers from financial liability for the cost of services that the Plan determined were not medically necessary and therefore, for which payment has been denied.

THE IMPACT OF PLAN PAYMENT AND SUPPORT PROGRAMS

The impact of Plan payment and supporting programs on inpatient utilization has been significant. For example, inpatient admission rate per 1,000 Blue Cross and Blue Shield subscribers decreased by 28% from 1980 to 1986 -- for an average annual decrease of 3.4%. The average decrease for all admissions in the U.S. during this same period was about 1.6%.

The impact of Plan payment and supporting programs on inpatient payments has also been significant. Preliminary findings from a major series of studies being conducted by Dr. Richard Scheffler a noted economist from the University of California at Berkley, indicate that Plan payment methods and supporting programs used during 1980 - 1986 have contributed to large savings in inpatient hospital payments for Blue Cross and Blue Shield subscribers. Specifics of this study will be available this summer.

COST SAVINGS, BUT NOT AT THE EXPENSE OF QUALITY

Blue Cross and Blue Shield has long been and will continue to be vitally concerned about the quality of care. Some observers have suggested that quality of care in the U.S. may be in jeopardy as a result of the intensity of cost containment programs. Though there is currently little evidence to support this contention, Blue Cross and Blue Shield Plans have and will continue to initiate programs designed to assess and promote quality of care as a component of their prudent purchasing strategy. In doing so our focus has been in medical appropriateness and proper delivery of care.

Determining medical appropriateness

Blue Cross and Blue Shield has a long history of addressing medically appropriate care and has two major initiatives in this area. Our nationally acclaimed Medical Necessity Program was established in 1977. The Medical Necessity Program's focus is on services that may be outmoded or inappropriately utilized. The Program's goal is to educate providers and Plans on what is generally accepted to be medically necessary. To date, the Program has provided guidance on the appropriate use of six broad categories of clinical services. The Program's most recent product, the Diagnostic Testing Guidelines, addressed the appropriate use of preoperative chest x-rays, electrocardiograms and common laboratory procedures. These guidelines were developed in conjunction with the American College of Physicians. The program is effective in changing practice patterns because it is largely supported by national medical organizations and generally accepted by the provider community.

The Technology Evaluation and Coverage (TEC) Program is our second major initiative in appropriate care. The TEC Program evaluates new devices and procedures for coverage purposes. The guiding principle is that, in order to be considered eligible for coverage, the published scientific evidence should demonstrate that a procedure improves health outcomes, such as length of life, ability to function or quality of life.

The TEC Program addresses a critical problem: premature diffusion of new medical procedures. In the past, it was commonplace for new procedures to be widely used without well-controlled scientific studies demonstrating their clinical utility and appropriate use. To provide quality care, we need to know which procedures benefit the patient, and which do not.

The combination of these two programs -- the Medical Necessity Program with its emphasis on outmoded and inappropriate care and the TEC Program with its emphasis on the effective use of new procedures -- working in tandem -- eliminate waste and helps assure quality care.

Monitoring delivery of care

Monitoring utilization is a well understood and accepted activity. However, monitoring providers' actual performance -- how well they deliver the care -- is a concept that is gaining widespread acceptance.

One of the first procedures addressed in this context was heart transplants. The introduction of major organ transplants challenged all of us to carefully consider who was best able to provide quality organ transplant services. We were faced with a set of very complex and costly procedures that many hospitals potentially had the capacity to perform but only a few had, at the time, the necessary experience.

The Blue Cross and Blue Shield Association encouraged national acceptance of the "centers of excellence" concept, and in order to implement that concept for our own members, assessed the performance of every transplant institution in the nation.

Now, in 1988, we are expanding the "centers of excellence concept" to other services. Plans are developing the capacity to assess providers' actual performance using a variety of methodologies. Assessing quality is obviously complex, so we are relying heavily on the guidance from noted experts on quality such as Harold Luft of the University of California and Marc Chassin of the Rand Corporation.

Finally, Blue Cross and Blue Shield has the largest national network of HMOs -- 95 HMOs providing service to over five million subscribers, nationwide. Assessing the quality of HMO services is one of our major objectives. All of our HMOs are conducting quality assessment programs including reviewing inpatient and outpatient medical records and assessing patient satisfaction. Just one week ago we announced that Blue Cross and Blue Shield HMOs are being reviewed and accredited by the Joint Commission on the Accreditation of Health Care Organizations. Our next objective is to establish quality assessment mechanisms for our other products -- Preferred Provider Organizations (PPOs) and Managed Care Programs.

TODAY'S CHALLENGE

In closing, I want to highlight the challenges that we face.

Today's challenge is better cost and quality management of ambulatory care. By ambulatory care, I mean care delivered by hospital outpatient departments and by non-hospital providers.

We all know that there has been a dramatic rise in outpatient utilization and expenditures. One reason is the technological advances in diagnostic and therapeutic services. Many surgeries can now be safely performed in the outpatient setting. Another reason is the increased ability to care for sicker patients at home. A contributing factor, of course, are new payment arrangements that encourage efficient discharges and provide incentives to move care out of the inpatient setting.

We recognize that some of the increase in outpatient expenditures is an unintended consequence of efforts to contain hospital costs. This reminds us that, in designing payment and cost management programs, it is essential to consider all the elements of the health care system and how they interact to affect price and utilization. We will need an integrated approach to ambulatory care that addresses costs, utilization and medical appropriateness in a balanced manner.

The data systems and methods for monitoring ambulatory care are being developed. Data gathering for ambulatory care will be more difficult than for inpatient care. But we are confident that the basic tools for managing costs, utilization and quality can be adapted to ambulatory care settings. Some specific steps that Blue Cross and Blue Shield is now taking include:

- focusing our medical appropriateness programs on procedures intended for outpatient use;

- applying established utilization management programs, such as preauthorization and second opinion, to ambulatory services.

FUTURE CHALLENGES

One of tomorrow's challenge is to develop payment programs based on comprehensive, effective treatment of illnesses rather than discrete services. Traditionally, insurance coverage has focused on benefits for types of services; for example, hospital, physician, outpatient, prescription drugs and home care. But to best serve the subscriber, and to manage cost and quality, we need to focus on the package of services that is needed to effectively treat an episode of illness.

There are precedents for this approach. The first, which goes back to the early history of Blue Cross and Blue Shield, is the service benefit concept: The subscriber should be assured of receiving the services that are medically necessary for the treatment of an illness. A second precedent is payment methods based on DRGs. This method provides coverage for episodes of illness, but only in the hospital. A third precedent is Health Maintenance Organizations (HMOs). These organization's provide coverage for episodes of illness both in the ambulatory and hospital setting. Our challenge is to apply the concept of treating an episode of illness more broadly.

The future will also require greater integration of cost and quality measurement in the purchasing decisions. Such decisions will increasingly characterize the selective contracting program that have grown in Blue Cross and Blue Shield Plans and which have become widely accepted by the buyers of our services.

SUMMARY

The purpose of this hearing is to discuss the effects of current and alternative payment methods on the provision of hospital care both now and in the future. What I have attempted to emphasize today is that the success of a payment program is not so much dependent on the the payment method itself -- as on the integration of the payment method with other programs that manage utilization, medical appropriateness, and quality -- and further that in designing payment and cost management program it is essential to consider all elements of the health care system and how they interact.

In closing, Mr. Chairman, I would like to thank you for the opportunity to testify. I will be happy to answer any questions.

Representative **Scheuer**. I am going to ask you several questions after the other two witnesses have testified. One of them is—and you can think about this for the next 10 or 15 minutes—why do you think it is that the normal economic forces in the marketplace haven't worked in terms of these major reimbursers? There is a small number of reimbursers and a lot of providers.

You should function by the classical laws of what we call oligopsony, a few purchasers of a product and a lot of people out there, like the traditional fruit and vegetable packers, the canning company that cans tomatoes. There may be one of them on the west coast and thousands of individual farmers who sell tomatoes. That one purchaser of tomatoes has a lot of clout in dealing with farmers, too much clout the farm union says, so they try and organize to protect their bargaining capability.

With Blue Cross and Blue Shield having the enormous potential clout as purchasers and reimbursers for services, how is it that they have been so comparatively ineffective in containing costs and in disciplining those providers into a more effective discipline, self-control, entering a state of meanness and leanness? Why haven't classical economic forces worked in this matter?

OK. We will be back to you.

We will now hear from Mr. Carl Schramm, president of the Health Insurance Association of America.

Mr. Schramm, please take 7 or 8 minutes. I hope you won't read your prepared statement. I hope you will chat with us, and don't hesitate to advert to anything you have heard this morning, either from your fellow colleagues on the panel or from myself, or anything else.

Please proceed.

STATEMENT OF CARL J. SCHRAMM, PRESIDENT, HEALTH INSURANCE ASSOCIATION OF AMERICA

OVERSPENDING ON HEALTH CARE

Mr. **Schramm**. Thank you, Mr. Chairman.

The Health Insurance Association of America is a membership organization made up of 370 private carriers who cover 75 million lives and provide over 85 percent of all the private health insurance in the country.

It is a pleasure to be here this morning as the new president of the association. My past includes having served in Mr. Anderson's position as the director of the center at Hopkins, and also as a member of the Maryland Hospital Rate Setting Commission for 9 years.

The problem that you talked about early this morning in terms of our historic experience vis-a-vis that of the other OECD nations points up to me two very important observations, and I think you basically made both of them. One is that one cannot look at this level of spending in the society and not be troubled that it isn't too much. I would like to say on behalf of the private insurance companies, we are in the midst of a significant debate about whether or not we can be indifferent any longer about the question of how much is spent in aggregate in this society.

Regarding the question about expressed preferences, raised by Mr. Anderson, this is in many respects I would suggest an ex post rationalization of the status quo. Just because we spend this much is not an argument to spend this much in the future. Insurance companies are troubled that spending this much may in fact be deleterious to the health of many of our insureds, and I will give you some information about that in just a second.

OPPORTUNITY COSTS

The second observation that our current level of spending suggests, particularly as we move to 12 percent of real gross national product, is really one of what the opportunity costs are if in fact our goal is to increase the health status of the population.

Since 1928, with the publication of Henry Segrist's book "Health and Civilization," we have known that the way to improve the health status of the population is to increase real personal disposable income. We know that the problem we face in the United States with unacceptable levels of infant mortality and morbidity throughout the population, could be improved if in fact we could improve the health status of the population through better nutrition, housing, education, mobility, and so forth, not to mention preventive care.

But our ability to move in these areas is estopped because we spent so much in the acute care medical system. I think that is the opportunity question that is in front of us. Dismissing it as "revealed preferences," status quo, or what have you, cannot be acceptable anymore because the costs are just too high. You enumerated them very well in terms of what we are not doing on the educational agenda.

If we had a better educated population, we would probably have, for the incremental dollars, a healthier population at the same time.

Representative **Scheuer**. I think there is a direct correlation between education and health. The more people are educated, the better they take care of themselves and the better they understand that they are in charge of their own health outcomes to a very, very large extent. And the more they change their personal behavior, the more educated they are, the more they are capable of engaging in the self-discipline to change behavior on alcohol usage, on tobacco usage, on drug usage, on exercise, on avoidance of violent situations that are death dealing.

There is absolutely no question in my mind that there is a direct correlation between levels of education and ability to engage in thoughtful preventive health care for oneself.

Mr. **Schramm**. Mr. Chairman, I thought I would offer a few observations on what we have learned in the last 10 years and then conclude with a few thoughts as to what we might do.

HEALTH CARE SYSTEM NOT BETTER

It seems to me that what we have learned in the last few years, particularly in the light of expressed and conscious attempts at payment reform, is one overarching lesson. We are paying a lot more in real terms and we are getting a different product, but a product for which I don't think there is any evidence that suggests we can be comfortable that the society is enjoying better health.

Representative SCHEUER. Well, that is the leitmotif that sort of overgirds this entire series of hearings, and the question is what do we do about it.

Mr. SCHRAMM. Well, if we are agreed on the leitmotif, perhaps it would be much more efficient if we just moved to what I think we might be able to do about it.

Representative SCHEUER. Excellent.

Mr. SCHRAMM. In my prepared statement, I mention the enormous shift in managed care that has taken place from the insurer's side. Only 3 years ago, 4 percent of all insureds were in managed health care plans. Last year, over 60 percent of our insureds were in these types of plans. So there has been an enormous shift in the institutional organization of financing. As previous witnesses have suggested, there have been enormous shifts in the behavior of hospitals, as well.

But I think the sorry conclusion is that we pay continuously more and more and we may in fact see deterioration of both the distributional system; that is, equal access, and also the quality question.

POLICY RECOMMENDATIONS

So what should we do? It seems to me that the first thing we might do is create an environment across the society, where we are thirsty for information on what it is we are getting. It seems to me we must be able to aggregate information on what the delivery of health care looks like and what the outcomes are.

One thing that the Congress can do—and I suspect you haven't heard this in these hearings—in order to generate this environment is to contemplate stimulating, through grants, but also through an inspection of the antitrust statutes, whether or not employers, insurers, hospitals, and others can get together to get this information pooled. It is information that is key to changing the system. We can't even have a sensible debate in this country because the information isn't in front of us.

I might say just in passing, we have been indulging in an orgy of application of antitrust law in the health care arena.

Representative SCHEUER. By the Justice Department?

Mr. SCHRAMM. By the Justice Department and private litigants. Only 2 days ago, the Supreme Court basically voided the ability of physicians to effect peer review on other physicians.

Representative SCHEUER. I know. I saw that. I thought it tragic.

Mr. SCHRAMM. I couldn't agree with you more. But that is indicative of the high level of antitrust litigation that goes on throughout this field and it does more to dampen effective central collection of information than you can imagine.

Without the information, we cannot make progress.

Representative SCHEUER. Mr. Schramm, I wish you would submit a little informal memo to us, or a position paper, outlining the antitrust problem as a problem in the collective aggregation of the kind of statistical information that we need to get our economic house in order in the field of health care delivery, with some legislative recommendations.

It can be informal. It doesn't have to represent the Health Insurance Association of America; it can be your personal views. And I think that would be very helpful to us. You made an extremely thoughtful statement of what a major problem it is in aggregating health statistical information that would be extremely helpful to government and to all health care providers, to health care reimbursers, to you, to Blue Cross and Blue Shield. You seem to be very much at the cutting edge of thinking about this.

I would appreciate that very much if you would.

Mr. SCHRAMM. I would be delighted to. Thank you for the invitation. I will comply, pronto.

[The following information was subsequently supplied for the record:]

HIAA

Health Insurance Association of America

Carl J. Schramm
President

July 28, 1988

Congressman James Scheuer
Chairman, Subcommittee on Education and Health
Joint Economic Committee
G01 Dirksen Senate Office Building
Washington, DC 20510

Dear Mr. Scheuer:

I attach for your review the material you requested during hearings of your subcommittee on issues in health care financing. You will recall I suggested that the antitrust laws pose one impediment to more successful cost containment initiatives in the private sector. Here is some background information which elaborates the point I made.

In 1985, U.S. Senator Arlen Specter (R-Pa.) introduced legislation that would allow health insurance companies to work together in an attempt to hold down the spiraling costs of health care. Currently, this kind of cooperative effort is a violation of the antitrust laws. Senator Specter's bill, S. 379, entitled the "Health Care Cost Containment Act of 1985," would have provided a limited exemption from antitrust liability to allow health care insurers:

-- To collect and use health care data to evaluate the costs and quality of various health care services;

-- To provide consumers with information about the costs and quality of care to allow them to make rational and informed choices among the various providers of health care;

Upon introducing S. 379, Senator Specter stated that the bill "would allow insurers to enter into agreement with providers clearly stipulating the level and cost of health care, thereby promoting competition within the health care industry and giving further clarity to consumer decisions on how to choose health care most efficently."

1025 Connecticut Avenue, NW Washington, DC 20036-3998 202/223-7800 Telecopier 202/223-7897

To deter any potential abuse of the antitrust exemption, the bill empowers the Attorney General to sue to enjoin any of the permitted activities which are found to increase health care costs or to unduly restrict competition.

Senator Specter cautioned that the bill is "not a panacea" to the problem of exploding health care costs, but is "a reasonable first step" towards cost containment. The full text of the bill, which was referred to the Senate Judiciary Committee, is included along with Senator Specter's introductory remarks in the enclosed excerpt from the Congressional Record.

I hope this information is helpful. At your request, the HIAA will be all too happy to follow-up with further information and assistance.

Sincerely yours,

Carl

Carl J. Schramm
President

CJS/gmg
Enclosures

CC: David Podoff

STATEMENT
OF THE
HEALTH INSURANCE ASSOCIATION OF AMERICA

ON

S.2051 - THE HEALTH CARE COST CONTAINMENT ACT

PRESENTED BY

JOSEPH H. REESE, JR., CLU

BEFORE THE

SENATE JUDICIARY COMMITTEE

JUNE 26, 1984

I am Joseph H. Reese, Jr. Chairman of the Board and President of Provident Indemnity Life Insurance Company of Norristown, Pennsylvania. Today I also represent the Health Insurance Association of America. HIAA is the national trade association of the health industry. It consists of over 300 insurers which together write over 80% of the health insurance sold by insurance companies in the United States.

I am accompanied by John R. Hurley, Assistant General Counsel, and James A. Dorsch, Washington Counsel, of the HIAA.

We firmly support the enactment of S. 2051. This bill grants to the insurance industry a very limited exemption from the application of antitrust laws so that insurers may collect and use health care data on a joint basis to control health care costs, and to jointly negotiate with health care providers for cost-effective, quality health care for their insureds. The bill also provides for surveillance of these activities by the Attorney General.

The purpose of the Act is simply to allow insurers to better use their market influence to help hold down the calamitous rise in the cost of getting well. The Act also will help to provide consumers with more and better information so that they can become a moderating force on health care costs.

The purpose of my statement is twofold. I would first like to describe to you the problem of cost and competition which confronts the entire industry. Then I would like to speak on behalf of our own company and also many other smaller life and health insurance companies in this country, who are directly affected by the severely escalating medical provider costs in our country, and by the cost shifting that has resulted from underpayment for health care by other payors, including the federal government.

The Problem

The high cost of health care is a national problem which to date has defied solutions. From December 1982 to December 1983, the national inflation rate averaged 3.8%, but the hospital room and board component of the consumer price index rose 9.3% with significantly higher increases in the larger population centers. Health care expenditures now represent 10.4% of the GNP, or $362 billion. The expansion of the system for better or worse, continues unchecked by regulation or market forces. In the states of Massachusetts and New York in 1983, over $2-1/2 billion in new hospital-related construction was planned, and would have gone forward except for legislative and executive moratoria imposed by those states. In Pennsylvania, similar approved construction totaled $2.743 billion for 1979-1982 and no effective mechanism, public or private, exists to question the need for such expansion or to provide competitive checks and balances.

Every American consumer is bearing the burden of health care inflation. We pay for it in increased taxes to pay for Medicare and Medicaid, which cost taxpayers over $70 billion in 1981. We pay for it through increased health insurance premiums, which rise in response to the higher cost of care. Annual premium increases of 30% and more are not the exception today, but the rule. We pay for it through the increased costs of goods and services passed through by employers who bear the impact of health care inflation on employee benefit plans. If nothing is done to control these increases, the nation will not be able to afford the costs of getting healthy. When a semiprivate room in Philadelphia reaches today's average cost of almost $300 a day and has increased in cost 160% since 1976, it is clear that many people will soon be forced to make hard choices -- not about the level of care or of health insurance protection they can afford, but whether they can afford health care protection at all.

The Causes

The incredible advances in medical technology have contributed greatly to our society's well-being. But the influence of new devices, tests and drugs has pushed the cost of health care upward in dramatic fashion. Professor Carl Schramm of Johns Hopkins has made the following observations:

> The rapid profusion of sophisticated equipment for diagnostic testing is well-documented, and the meteoric increase in the routine administration of recently developed tests is known to be one of the most important causes in inflation of hospital costs and total health expenditures...
>
> New technology in health care nearly always creates a demand for new, more highly-skilled technicians...
>
> ...the net result is a higher total labor bill... To the extent that new technology continues to be developed and proliferated and to the extent that physician's incomes increase in proportion to the amount of testing ordered, the phenomenon of new technology and new capital equipment being linked with higher unit prices will remain a distinctive characteristic of the health care market.*

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*Schramm, "A State-Based Approach to Hospital Cost Containment," 18 Harvard J. Legis 603 at 611 (1981).

A leading problem which drives up the cost of care is the inefficient and anticompetitive payment systems used to fund hospital care. It is not hard to see that a system where the hospital spends, and then is reimbursed without any true accountability to anyone, provides for no incentive for the hospital to save money or to operate efficiently. On the contrary, if a hospital wants more revenue, all it has to do is spend more money. Recent amendments putting the Medicare Program** on a prospective pricing system will admittedly hold down Medicare outlays, but hospitals can simply raise charges to private patients. If the change to a prospective system provides the right incentives to control health care expenses, and we agree that it does, changes are equally needed by those who are not eligible for Medicare.

Another factor involved in the escalation of health costs is the non-involvement of the consumer in the decisions made in providing health care. Out of fear of sickness, lack of knowledge, esteem and trust for physicians, and because in most cases "the insurance company will pay for it," consumers have

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**See e.g. P.L. 98-21, Social Security Amendments of 1983, Sec. 601.

little incentive to seek out cost-effective treatments. Consumers do not have any idea what charges are being made for care, why they are in one hospital rather than another, or why any particular course of treatment, expensive or not, is necessary. Physicians and hospitals understand all too well the patients insulation from the impact of the cost of care. They have no incentive to practice cost effective medicine. Thus, as many commentators have noted, "only the third party payor has any immediate incentive to control costs".*

The Federal government, and some Blue Cross plans, because of their structure and status, possess concentrated market power in dealing with hospitals. They can protect their positions through issuing regulations or by hard bargaining. For the vast majority of the country, however, neither the insurance company nor the employer has sufficient local volume to negotiate effectively.

There are over 1,000 companies selling health insurance, many on nationwide basis. The market is extremely dispersed. The reason lies in the highly competitive structure of the industry. In 1983, the largest health insurer, Prudential, underwrote only some 4.3% of the health insurance business measured by premium volume. The business of the top ten insurance companies totaled only 18.7% and the top twenty companies totaled less than 25.3%.* Since these companies operate in 50 states and may have insured patients in any of 6,000 hospitals, their individual buying influence in any particular hospital is limited.

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* Kallstrom, "Health Care Cost Control By Third Party Payors", 1978 Duke L.J., 645 at 648 (1978)

Some observers question why insurers do not act jointly to influence provider behavior on costs and quality of care. The answer lies in the legitimate concerns of the insurance industry that such joint action would subject it to governmental and private actions charging violation of federal and state antitrust laws.

The McCarran-Ferguson Act offers no protection for insurer joint action on cost containment. Any joint action which would limit or prevent provider reimbursement, such as denying payment to a hospital which overcharges for care, can be construed to be a boycott and thus outside the jurisdictional protection of McCarran. (See 15 U.S.C. Sec. 1013(b); St. Paul Fire and Marine Ins. Co. v. Barry, 438 U.S. 531 (1978). In any case the McCarran Act does not in and of itself protect insurer involvement with providers in cost containment activity. (Pireno v. Union Labor Life Ins. Co., et al., -- U.S. --, 102 S. Ct. 3002 (1982)).

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*Source: National Underwriter, June, 1983. Blue Cross data is not available to the National Underwriter or to HIAA. However, we assume for purposes of general description of the market that Blue Cross plans comprise roughly 50% of the market for private health care coverage.

The Justice Department has expressed considerable concern about any joint insurer activity involving contact with providers on the questions of cost and quality of care.*

The Federal Trade Commission has similarly made it clear that insurer involvement in cost containment activities, while generally permissible, is subject to close scrutiny.**

Insurers believe that if they are allowed to use their considerable aggregate market power on a joint basis, they can become the kind of bargaining agent for their customers that is needed to place appropriate market forces into play in the health care delivery system. Without such joint action, hospitals and doctors can continue to price their services and use them without any real limitation.

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*See, Business Review Letter on Maryland Health Care Coalition, dated February 19, 1982, from William F. Baxter, Assistant Attorney General, to Patrick Renaud.

**See, Advisory Opinion to Health Care Management Associates dated June 22, 1983.

The antitrust laws were formulated to promote and assure the American public of the benefits of competition. In this case, the application of those very laws to insurers is stifling efforts to promote competition in a field where such efforts are drastically needed. In this case, a limited exemption to the antitrust laws is necessary to carry out the intent of those laws.

Now I would like to show you how this cost problem and this competitive dilemma affects my company.

Provident Indemnity Life Insurance Company was founded in 1895, has approximately twenty-one and one-half million dollars of assets and annual revenues of about twenty million. Our company operates in fourteen states and our principal source of business is providing health insurance coverage for small employers. Currently we have in excess of 2500 small businesses who rely on us for their health insurance coverage. We are one of relatively few insurance companies left in the United States who are still operating in the small group health insurance field, with most having dropped out because of extensive operating losses in their health insurance lines. As a matter of fact, many insurance companies have been driven completely out of the health business as a result of major losses in this part of their operations, including such substantial companies as the Penn Mutual Life Insurance Company of Philadelphia, where I spent the beginning years of my own career.

According to the Life Insurance Management Research Association, there are today some twenty-one hundred and ninety-five legal reserve life insurance companies in our country. A.M. Best ranks our company, as of December 31, 1982 as 624th in terms of insurance in force, and 808th by overall assets based on the companies they rate. We are indeed a small company but it would appear that over 60% of all insurance companies in the United States are smaller than we by any measuring device. Our company is a member of both the American Council Life Insurance and the Health Insurance Association of America, but we sometimes are concerned that the impression created by these organizations to the Congress is that all insurance companies are of substantial size and financial worth. The largest 150 insurance companies represent about 80% of all company assets, but there are also some 2000 additional companies, employing thousands of persons, who are not included among the larger company group. Some companies appear to have the wherewithal to sustain themselves through harder economic times, but many insurance companies have had, and will have, great difficulty with the ongoing problem of escalating health costs, speculative rating procedures which are suggested by other pending federal legislation, and other factors.

To illustrate the impact of escalating health costs, I would like to furnish to you some figures concerning the operations of our own company. In 1979 Provident Indemnity had health insurance premiums of approximately $8.6 million, which produced an actual profit of some $534,000 from the health insurance business. In 1980 health premiums increased 14.7% to approximately $10 million, while health claims went up 37.5%, resulting in an operational loss from health business of $634,000. In 1981 health revenues increased 23.4% to $12.3 millions, but claims increased 32.3%, bringing about a loss from health business of $1,464,000. In January 1982 a new management team, including myself, became involved with the company in an effort to help resolve the company's problems. During that year revenues on health insurance went up 20.8% to $14.8 million, but claims increased 26.1%, resulting in an operational loss from health business of $2,613,522. During the three-year period from 1979 to 1982 health insurance revenues increased 71%, while incurred claims went up 120%. The total losses on health insurance business during those three years amounted to $4,712,625 or an amount equivalent to approximately two and one-half times the company's net worth as of December 31, 1981. Our basic survival has occurred only through substantial premium increases, drastic terminations of coverages, elimination of poorer-risk clients, tremendously high selectivity of new insureds, as well as significant new investor capital. I am pleased to report that health business has now returned to profitability but because of our company's size we remain alert and deeply concerned as to the great risk we are taking by being a health insurer in today's environment. We are also concerned with the consumer's ability to continue to sustain large annual increases in health insurance premiums.

The factors that have hurt our company during these troubled years are many. The major impact on this company has been external factors over which our company, as is true of other health insurance companies, has had absolutely no control. We were faced with rapidly escalating health costs, both medical and surgical, at a rate three and four times the rate of general inflation, which in itself has been unbearably high as we all are aware. Our industry was caught almost unaware, was slower than it should have been to react, but in retrospect it would have been difficult to raise our insurance rates as fast as medical providers raised theirs without a major loss of business occurring. The position of the smaller life and health insurance companies has been severe, both because of the competitive environment, and our inability to fall back on substantial dollars of reserves which exist with some of the larger companies.

In closing, we feel that passage of Senate Bill 2051, while not a panacea to the problem, is a significant step towards cost containment. Enabling insurers to use our combined market power would enable us to take an aggressive bargaining position for the benefit of all consumers.

S. 2051 would enable the insurance industry to compile and use joint health care data to give consumers more information about charges, length of stay, testing procedures, and the like, that would result in a consumer being more educated, more aware, and thus more likely to do something about health care costs.

S. 2051 is the embodiment of competition. It calls for no new regulation. Its purpose is to enhance real competition in the delivery and financing of health care. If the national goal is to reduce health care costs, and if the Congress acts favorably on S. 2051, the health insurance industry will gladly do its part. We simply ask for the tools to work with.

Description of Limited Antitrust Exemption

The proposal attached to this explanation allows payors of health care, singly or jointly, to do two things: 1) to collect and use health care data to evaluate the costs and quality of care rendered by providers, and to provide consumers with information about the costs and quality of care which will help them make rational and informed health care provider choices and to promote competition among providers; and 2) to enter into agreements with providers which will stipulate levels of care and cost for health care consumers so that each consumer's health care dollar will be most efficiently spent, and which will promote competition among providers and payors based upon such agreements.

The bill allows the Attorney General to investigate activities undertaken pursuant to this act and to file suit to stop any activity which is found to be increasing health care costs or is unduly restricting competition. This broad power will act as an effective deterrent to potential abuses of this exemption.

The exemption is designed to protect only those designated activities of payors narrowly related to cost containment and would not apply to price-fixing, customer or territorial allocation, or other violations of the antitrust laws, or to other activities which do not have as their sole and specific purpose the containment of health care costs.

The exemption is designed to override any conflicting state law which would prevent payors from performing the bill's designated activities. It is not intended to supersede state hospital cost control statutes or insurance laws which do not conflict with the bill's purpose, but which may impose additional duties or responsibilities on payors or providers.

Conclusion

The magnitude of the health care cost control problem compels government and private business to take unusual steps to reach solutions. Antitrust exemptions are not suggested lightly. But in order to control costs and to promote competition, this narrow exemption must be implemented. Without it, a strong and active voice for the consumer and for competition will remain muffled and weak.

SYNOPSIS OF BILL

Section 1. The popular name citation demonstrates the direction in which the legislation want the affected parties to go -- toward cost containment.

Section 2. The findings of Congress are self-explanatory.

Section 3. The definitions of "health care provider" and "insurer" are drawn broadly to assure that all interested parties, including employers, Blue Cross plans, HMO's and others, are allowed to participate equally in cost containment activities with all kinds of health care providers, both in and out of hospitals. Similarly, "health care services" as defined in the Medicare law encompasses inpatient and outpatient services of all types.

Section 4. The exemption applies to all federal antitrust statutes and the FTC Act. The activities listed in subsections a) - c) are narrowly drawn to assure that the exemption is not misused and to focus upon proven and effective methods of payor-provider interaction in cost containment.

Section 5. The Attorney General's power to seek injunctive relief if an activity is counterproductive or unduly anticompetitive is meant to allow for speedy and effective cessation of any abuses of the exemption. It is not believed to be necessary to provide for damages since the elimination of the abuses will be self-correcting.

Section 6. State laws which have been construed to prohibit joint payor cost containment action include state antitrust and little FTC acts and insurance unfair trade practice statutes, among others.

January 13, 1984

S.2051 - The Health Care Cost Containment Act of 1983 - Senator Arlen Specter

Problem addressed: Rising cost of health care.

Question: Why don't health insurance companies use their collective buying power to hold down rising health care costs?

Answer: Collective action risks government and private actions charging federal and state anti-trust violations.

Individually, insurers lack sufficient economic clout. Market very competitive and dispersed. Top 10 companies have only 20% of market; top 20 less than 27%; largest have less than 5% and are spread over 50 states with patients in 6,000 hospitals.

S.2051 would allow health insurers:

- To collect and use health care data to evaluate the costs and quality of various health care services;
- To provide consumers with information about the costs and quality of care to allow them to make rational and informed choices among the various providers of health care;
- To negotiate jointly agreements with health care providers that will stipulate levels of care and cost for consumers so that each consumer's health care dollar will be most efficiently spent.

Safeguard: Attorney General empowered to act against any activity found to increase health care costs or unduly restrict competition.

HEALTH COST CONTAINMENT ACT OF 1985

Mr. SPECTER. Mr. President, today I am introducing the "Health Care Cost Containment Act of 1985." This legislation is designed to confront what has become a national crisis—the disappearance of affordable health care in the United States

By any statistical measure, the cost of adequate health care costs is on the rise, far outstripping the ability of most Americans to pay for it. Last year, the health care component of the Consumer Price Index rose by 6.2 percent, more than 1½ times greater than the national inflation rate. The average cost of a semiprivate hospital room in the United States has increased 150 percent since 1976. Total health care costs were $355 billion, fully 10.8 percent of the gross national product.

Unchecked by market forces or regulation, escalating health care costs burden consumers in several punishing guises. There are higher taxes for Medicare and Medicaid. Health insurance premiums steadily rise, with annual increases of 20 to 30 percent in recent years. And aggregate higher health care costs ultimately fuel inflation at the expense of the quality of life of all Americans.

Health care is not a luxury. It is a basic necessity of life that cannot be allowed to slip inexorably out of the financial reach of American families. The Health Care Cost Containment Act of 1985 offers a useful step in controlling these costs.

Essentially, the legislation, provides a limited antitrust exemption to accomplish two results. First, it would allow health care insurers to collaborate in collecting health care data on the costs and quality of care rendered by health care providers such as hospitals and clinics. This information base would promote better consumer choices on health care while spurring competition among the providers of such care. Second, it would allow insurers to enter into agreement with providers clearly stipulating the level and cost of health care, thereby promoting competition within the health care industry and giving further clarity to consumer decisions on how to choose health care most efficiently.

This legislation recognizes that it is the health care insurers, or so-called third-party payors of health care costs, that are in a good position to restrain costs. Consumers lack enough information under the present system. A limited antitrust exemption will enable insurers to more accurately assess costs, so that they may intelligently deal with health care providers. This will redound to the benefit of all consumers.

In order to ensure that this exemption only promotes joint activities which actually will help contain costs, the bill authorizes the Attorney General to investigate all joint conduct provided hereunder. The bill provides that, if the Attorney General determines that the joint conduct fails to contain costs or unduly restricts competition, he shall order the cessation of such activities. This investigatory and remedial power would effectively deter potential abuses of the limited antitrust exemption the bill provides.

The exemption is designed to override any conflicting State law which would prevent health care payors from engaging in the activities designated in the bill. It is not intended to supersede State hospital cost control statutes or insurance laws which do not conflict with the bill's purpose, but which may impose additional duties or responsibilities on payors or providers.

The magnitude of the health care cost control problem compels Government and private business to take unusual steps to reach solutions. Antitrust exemptions are not suggested lightly. But in order to control costs and to promote competition, this narrow exemption appears to be warranted.

Since the Federal antitrust laws have been enacted, they have been of enormous benefit to our Nation in promoting competition. As a variety of economic problems have arisen, it has been appropriate to restructure and clarify the antitrust laws in order to promote the national interest.

On June 26, 1984, the Committee on the Judiciary held a hearing to consider the proposed exemption in this bill. The committee received testimony detailing the reluctance of health care insurers to act jointly to restrain costs, absent an assurance that such joint action will not subject them to charges of anticompetitive activity. The legislation I introduce today would provide such assurance, while protecting against potential abuses or undue restrictions on competition in the delivery and financing of health care services.

The committee also received testimony from the Federal Trade Commission and the Department of Justice raising technical and policy questions about the proposed legislation. Their concerns and valuable suggestions are under review, and will be addressed in due course. Perhaps further consideration will result in refinement or modification of this legislation. Given the urgent problem of exploding health care costs, however, we must not delay our efforts to fairly and reasonably facilitate cost containment.

This legislation is not a panacea for the problem of exploding health care costs, but it is a reasonable first step toward cost containment, a problem deserving our urgent attention.

Mr. President, I ask unanimous consent that the full text of the bill be printed in the RECORD.

There being no objection, the bill was ordered to be printed in the RECORD, as follows:

S. 279

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this bill may be cited as the "Health Care Cost Containment Act of 1985".

SEC. 2. The Congress finds that—

(1) the spiraling costs of the United States health care system requires cooperation among various private sectors to control those costs;

(2) the public interest requires that health insurers and other payors who reimburse recipients for the expense of health care, or pay providers directly on behalf of such recipients, be encouraged to work together to contain the cost to recipients; and

(3) the health care cost spiral appears not only to be part of the national inflation in the cost of living, but also to exceed other inflation rates; and

(4) insurers and others have cooperated in the limited collection, exchange, interpretation and use of data on the delivery of and charges for health care services, with a salutary effect on health care costs; and

(5) it is desirable that such cooperation continue and that the right to engage in further cooperative efforts to contain health care costs be clarified.

SEC. 3. As used in this chapter—

(a) "Health care provider" means an individual, group of individuals, hospital, clinic, partnership, corporation, association, company, firm or any other form of business enterprise which provides medical and other health services, or any association of such health care providers.

(b) "Insurer" means any individual, group of individuals, partnership, corporation, association, company, firm or any other form of business enterprise authorized to do the business of insurance or administer insurance under the laws of the United States or of a State, territory, district, or possession thereof, or any association of such insurers.

(c) "Health care services" means any item or service defined in 42 U.S.C. section 1395x (b), (c), (d), (f), (g), (h), (i), (j), (m), (n), (p), (q), and (s), all as amended.

(d) "Person" means an individual, group of individuals, partnership, corporation, association, company, firm or any other form of business enterprise.

SEC. 4. The antitrust laws, as defined in section 1 of the Clayton Act, and the Federal Trade Commission Act, shall not apply to any activity undertaken (either directly or through a third party or parties) individually by an insurer or other person engaged in making payments with respect to charges for health care services or jointly among such insurers or such persons for the purpose of—

(a) acquiring, processing, reporting or analyzing information relating to the quality, cost or utilization of health care services, including reasonable and customary levels of charges for such services, or collecting, distributing, publishing or using analyses or interpretations of such information;

(b) collecting and distributing insurance claims for health care services; or

(e) negotiating, entering into or acting upon agreements with health care providers with respect to the utilization of health care services or the levels of charges or reimbursement for health care services.

Sec. 5. (a) Activities permitted by this Act may be investigated at any time by the Attorney General for the purpose of—

(1) determining whether the activities under investigation are subject to the Act; or

(2) determining whether such activities have had the effect or will have the effect of increasing the cost of health care services or unduly restricting competition in the delivery or financing of health care services.

(b) In the event the Attorney General undertakes an investigation, all persons engaged in the particular activity that is the subject of the investigation shall be given notice thereof in writing. The Attorney General shall conduct his investigation in conformance with procedures to be established by him pursuant to section 553 of title 5, United States Code. If the Attorney General determines after the conclusion of such investigation that an activity does not comply with the requirements of this Act, he shall give written notice of such determination, which notice shall—

(1) include a statement of the circumstances underlying, and the reasons in support of, the determination; and

(2) state with specificity any actions required in order for the activity to come into compliance.

(c) If persons engaged in the activity under investigation fail to take the actions specified by the Attorney General within sixty days, he shall commence an action in the United States District Court for the District of Columbia to restrain and prevent the offending activity.

(d) In the event the district court finds that the venture or program is in violation of the requirements of section 4 or 5 of this Act, such court shall order the cessation of such activity.

(e) Any party aggrieved by the determination of the district court may, within thirty days of such determination, seek review by the court of appeals on the grounds that such determination is erroneous.

(f) Information generated in the course of any investigation or court action, or submitted by any person in connection therewith, shall be exempt from disclosure under section 552 of title 5, United States Code.

(g) Neither a determination by the Attorney General pursuant to subsections (a) and (b), or by the district court or court of appeals pursuant to subsections (d) and (e), nor any statements, opinions, or recommendations issued in connection therewith, shall be admissible in evidence in any administrative or judicial proceedings in support of any claim under the antitrust laws.

Sec. 6. This Act shall supersede any law of any of the several States that might otherwise prohibit the actions authorized within, the intent of Congress being to encourage payors or health care services to assist in containing health care costs.

Mr. **Schramm**. The second thing I think we do is to engender a discussion about what the institutional delivery system looks like. We have spent 10 years of looking at IPA's, HMO's, and PPO's as well as hospitals.

Representative **Scheuer**. Just for the record, maybe you could give us the English language equivalent.

Mr. **Schramm**. I hope I can.

HMO's are health maintenance organizations. PPO's are preferred provider organizations. IPA's are independent physician associations.

I think it is high time we had a test of what we were getting for this institutional reform. One of the things that troubles us from our data is the suggestion that many of these reforms have driven an enormous shift into the outpatient area. At the same time, we can conclude fewer people who are insureds are being admitted. The cost of a hospital stay has gone up enormously on a per capita basis.

Representative **Scheuer**. Even though average daily stay is going down.

Mr. **Schramm**. That is correct.

And the net conclusion, I think, that is unavoidable, is that there are fewer people being treated in hospitals at the same aggregate level of spending, adjusted upward for inflation, and at the same time we have had enormous explosive growth in the outpatient side.

The really incontrovertible conclusion is that the whole system costs more but we have managed in the process to have seen enormous institutional upheaval on where the situs of delivery is. We must now test to see whether or not this has yielded effective outcomes, which I doubt seriously, and whether or not it has improved the quality of the physician-nurse-patient interaction.

Representative **Scheuer**. So you are saying—and I don't want to put words in your mouth—but you seem to be saying the system is costing a great deal more but not necessarily delivering more first-class health care, either in the hospital system or in the outpatient system.

Mr. **Schramm**. You haven't put words in my mouth. That is exactly the doubt I wanted to raise, in just those terms.

The third thing I would suggest is we must pay more attention to the question of copayment. I have included some data in my prepared statement that suggest that while we believe there has been an enormous growth in the copayment principle; that is, most individuals are paying much more out-of-pocket for medicine and so forth, when adjusted for increases in per capita disposable income, we have seen very little and probably statistically insignificant change in the copayment experience in the population at large.

We know that where copayment has increased, we see smarter decisions being made by individuals. So I think we should assert a commitment to copayment, but examine whether or not we in fact have the phenomenon, in truth, underway.

The fourth and final observation I would make is that, sadly, we have seen enormous retreat by the Government from the treaty that was forged in 1965 over medicare and medicaid. There has been continued erosion in the title XIX program in terms of enrollment, coverage, eligibility, and so forth.

I think it is important that the Government reassert its responsibility on this frontier, and with that responsibility the concomitant responsibility to regulate providers. It is easy for the Government to consume itself with an idea that it is just another insurance company operating more and more like a market animal. That is not the role of the Government. It wasn't intended in 1965, and the Government cannot move in that direction just to avoid the uncomfortable problem of inspecting and potentially regulating the providers.

Finally, I think Mr. Owen has actually pointed out the real reason we have to have government commit itself again here. That is, the absence of predictable public revenues has caused many providers to essentially assume a profiteering motivation only to build up reserves against government essentially violating previous promises. I think perhaps the most important thing the Government could do is commit itself to a steady, predictable promise of payment to the providers. That is reasonable and sensible and, as I say, predictable.

Thank you for the opportunity to be here this morning.

[The prepared statement of Mr. Schramm follows:]

PREPARED STATEMENT OF CARL J. SCHRAMM

I am Carl Schramm, president of the Health Insurance Association of America, the trade association representing 350 insurance companies. Our members write more than 85 percent of the private health insurance provided by insurance companies in this country. We are deeply committed to providing quality, cost-effective health care for all Americans.

The rate of health care inflation is preposterously high relative to other more stable prices. Last year, the medical care component of the consumer price index (CPI) surged 6.6 percent, compared with a general inflation rate of 4.4 percent (see figure 1). In 1986, the medical care component grew 7.7 percent while the general inflation rate grew at only 1.1 percent. In fact, there have been only two years since 1946 when medical care prices did not outpace the CPI--in 1979 and 1980, when the entire country was affected by high energy costs and consumer interest rates. While health care inflation is not a new phenomenom, we are witnessing significant changes in its composition. An increasing proportion of the medical care component of the CPI is due to care delivered out of the hospital, in so-called ambulatory care settings.

Partly as a result of the persistent difference in inflation, health care expenditures as a percentage of the gross national product (GNP) have risen steadily, from about 5 percent in 1965 to 11.5 percent last year. Health care expenditures as a percent of GNP not only are substantially higher in the United States, in comparison to Britain, Canada and all the OECD countries, but also are increasing at a higher rate (see figure 2).

In the mid-1980s, there was optimism that we had beaten the problem of health care inflation. Recall the 1984 statement of Secretary of Health and Human Services, Margaret Heckler: the war on hospital costs has been won, she declared. In fact, it has not been won, and in real economic terms, the problem is even worse now. The culprit is service intensity.

Is America doing the right thing by spending an increasing amount of money mostly on acute medical care? There are several good reasons why the answer should be "no."

One is that beyond a certain point, spending more money on health care does not make sense. To be sure, many people alive today owe their continued life to various medical breakthroughs. Equally important are those therapeutic advances that result in an enhanced quality of life for many who would otherwise be disabled by disease. But not all care is good care or, more to the point, appropriate care. Overutilization of many commonplace procedures is ubiquitous and, in fact, may actually harm patients.

Second, while several indices of health status of the population have shown improvement (notably life expectancy in the upper age cohorts), there is much evidence suggesting that this results from improvements in personal disposable income -- not advances in acute care medicine. Thus, if America is to spend more real GNP on improving the health status of all its population, it would be more effectively accomplished by raising personal income and hence living standards.

Insurers have implemented several strategies to manage health care costs. In 1984, only about 4 percent of commercial group business was in some form of a managed health care plan (see figure 3). Last year, nearly 60 percent of commercial group business was in such plans, in either a health maintenance organization (HMO), preferred provider organization (PPO) or fee-for-service plan. The main way in which managed care plans control costs is by examining the appropriateness of a hospital admission or procedure before it takes place. Many people believe that this process has had a sentinel effect--that is, one cost-conscious strategy stimulates cost-consciousness in general--and has worked to keep claims costs down.

But insurers might be victims of our own success. As we moved to constrain the per stay price paid in inpatient settings, more and more care has been delivered in outpatient sites, which have little or no utilization controls. As hospital admissions dropped dramatically, the number of visits outside the hospital setting grew so rapidly that the large savings expected never materialized. Some people refer to this as the squeezing-the-balloon syndrome: Push down in one place, and you will get a bulge in another place.

To illustrate this point, the amount of surgery performed on an outpatient basis increased from about 15 percent in 1980 to 40 percent in 1986, and the number of ambulatory care centers and patient visits to them grew some three-fold. Outpatient care accounts for up to 50 percent of total health care expenses for some employers. The growth in outpatient care is also reflected in revenue data (see figure 4). Outpatient revenue surged 16 percent in 1986 and 13.5 percent in 1987. At the same time, inpatient revenue increases hovered around 5 percent. What we are witnessing is a new form of health care inflation, one which generates from care delivered out of the hospital and which is virtually immune from the existing cost control mechanisms such as utilization review and prospective payment.

In addition, the traditional inflationary forces-- particularly those keyed to new medical technologies, the aging of America and inpatient costs -- are on the rise. One area of particular concern is in alcohol and drug abuse treatment. The needs are vast: One in four families has an alcoholic in it. Insurance companies are witnessing a tremendous growth in the use of alcohol and drug treatment facilities. For example, based on one large insurance company's experience, mental health and chemical dependency expenses rose by 21 percent last year. Another major insurer reported that between 1985 and 1987 hospitalization rates increased by 25 percent for psychiatric services while the rate declined by 20 percent for medical and surgical services (see figure 5). As the number of health services-- and people served -- increases, so too will the nation's health care bill.

Is it possible to control health care costs, or is it an illusory goal? As an economist, and as president of HIAA, I believe there are ways to better manage these costs, and ultimately to constrain them. Since we are dealing with a new kind of inflation, we may have to seek new solutions, particularly those that affect outpatient as well as inpatient care. In addition, since health care is determined in local markets, we may want to seek different solutions in different markets. Insurers and other actors in developing health policy are beginning to do this by:

-Pooling data on physicians' practice patterns and charges;

-Selectively contracting with providers;

-Increasing cost sharing;

-Seeking pluralistic solutions; and

-Reaffirming our national commitment to a public-private partnership to provide appropriate, cost-effective care.

It has long been documented that physicians' practice patterns and charges vary widely from community to community, based on factors such as competition, hospital occupancy rates and physician training biases. For example, a woman is four times a likely to have a hysterectomy performed on her in one New England locality as in another. Similarly, physicians' charges range widely. While information such as this provides important insights into health care expenditures in a community, it does not add to the knowledge base about practice patterns and charges of specific physicians. Within the constraints of antitrust laws, it should be possible for purchasers of care -- namely, insurers and employers -- to pool their claims experience. Without pooling, most insurers find they have inadequate claims experience to determine who are the high quality, cost-effective physicians. These data also should prove useful for targeting utilization review on those physicians with inappropriate treatment patterns.

If insurers were armed with this sort of information, insurers could more aggressively contract with providers--hospitals, physicians, outpatient centers and other community based health care services. We must strengthen the role of the insurer as the purchasing agent for employers and employees and their dependents. Insurers must be able to negotiate terms before patients enter a physician's office, the ambulatory care center or the hospital. This is one of our best hopes for controlling costs.

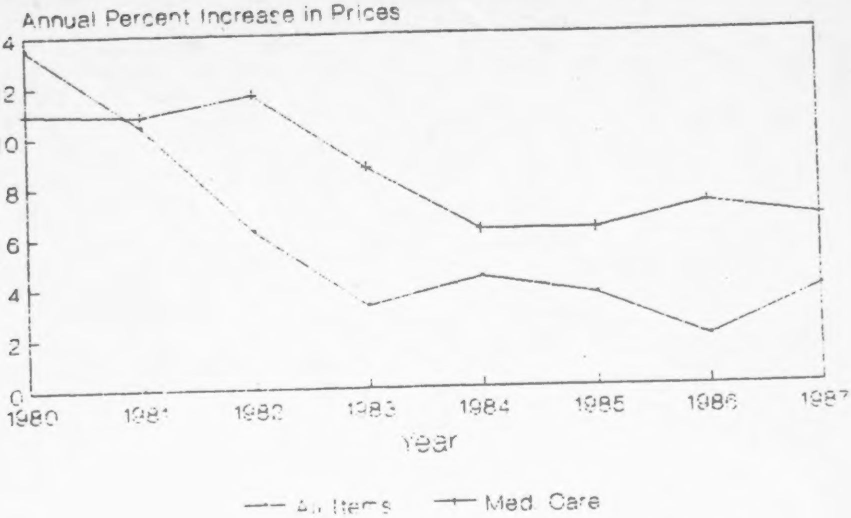
Unfortunately, health care costs will continue to rise as long as people who use the services take little financial risk. Increased cost sharing with insureds would provide this leverage. Paying more for service with a higher deductible and/or higher copayment clearly provides an incentive to use health care services less often. The RAND Corporation found that health expenses for families with free care were nearly 50 percent greater than families with a catastrophic, high deductible plan.

Increasing cost sharing is never a popular move, especially since many people think that their share of the health bill has risen enough over the past few years. Perception and fact often differ. When inflation is factored in, most insureds pay no larger share of their health care bill in 1985 than they did in 1981 (see figures 6-8). Yet their benefits have greatly increased. For example, an increasing number of plans routinely offer dental coverage. At the same time, advances in medicine have greatly enhanced the value -- as well as the cost -- of traditional coverage.

One-shot solutions to the problem of health care costs will not work. Problems as complex as modern health care financing seldom yield to simple solutions. It is folly to believe it is possible. Instead, we should seek pluralistic solutions. We should support state rate-setting where it is proven effective; we should strengthen the ability of HMOs and PPOs to negotiate with providers.

While working to contain costs, we should not lose sight of the 35 million to 37 million uninsured Americans who do not have access to the health care system at any cost. I believe it is possible for the public and private sectors to provide health care coverage for all Americans. Increasingly, difficult decisions as to the extent of that coverage will be made as more demands are placed on our resources. Nevertheless, the public sector cannot retreat from its responsibility to provide coverage for those who cannot afford to do so themselves. For its part, the private sector's responsibility is clear: to offer affordable coverage to all working Americans and their families.

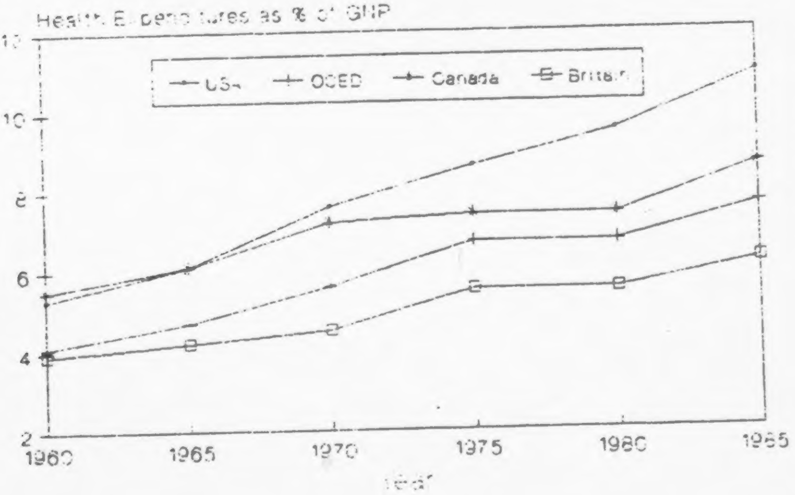
Rates of Inflation: Medical Care Vs. All Items



Source: Bureau of Labor Statistics

Figure 1

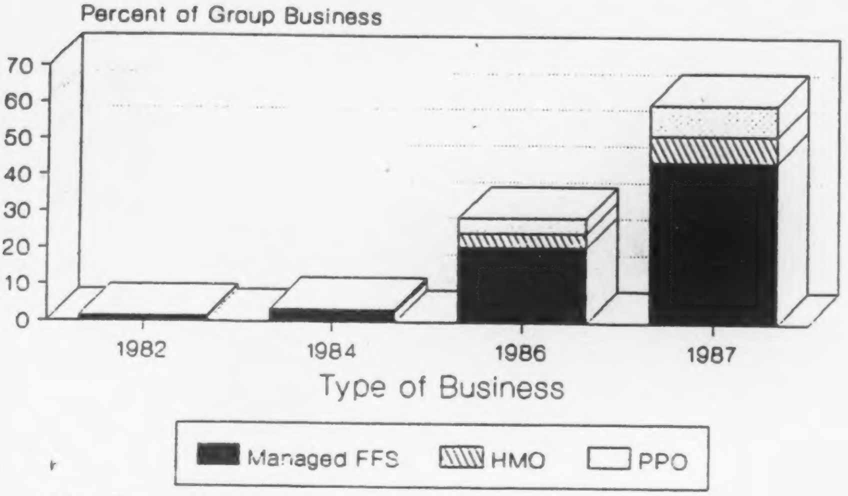
Selected International Comparisons: Health Expenditures As Percentage Of GNP



Source: Thomas Schongalla, ACHES

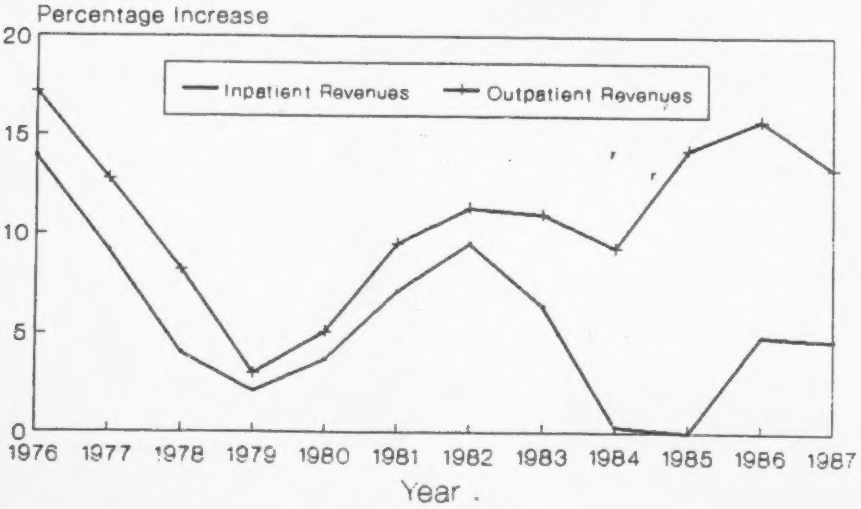
Figure 2

Growth of Managed Care In The Commercial Health Insurance Industry, 1982-1987



Source: HIAA Survey of 121 Insurers
HIAA Survey of 771 Employers

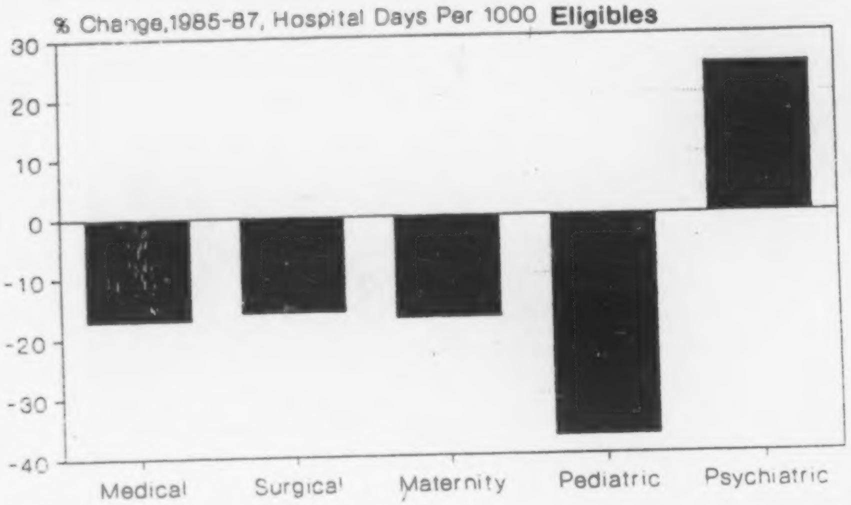
Outpatient Revenues Surge: Changes in Hospital Revenues, 1976-1987



Source: AHA National Panel Survey

Figure 4

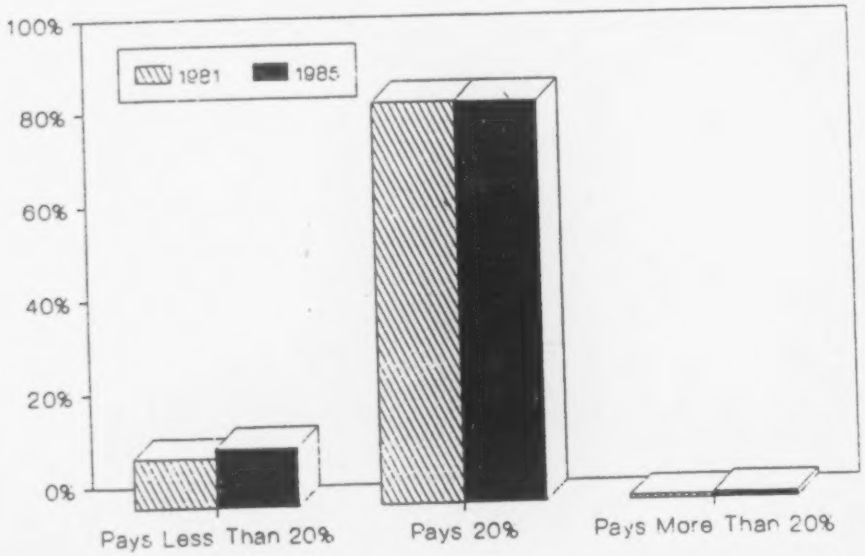
Psychiatric Hospitalization Rises While Medical-Surgical Days Decline: The CNA Experience



J Wittlich, CNA Insurance

Figure 5

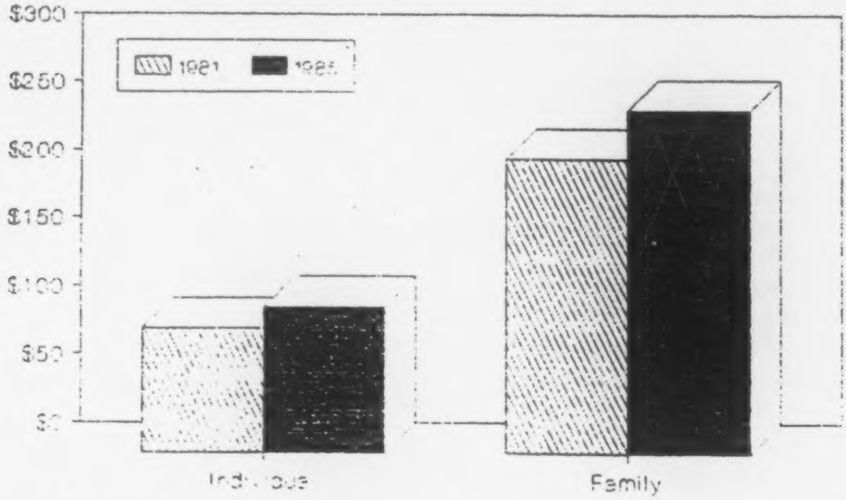
Employee Coinsurance Rates: A Comparison Between 1981 and 1985



Source Bureau of Labor Statistics

Figure 6

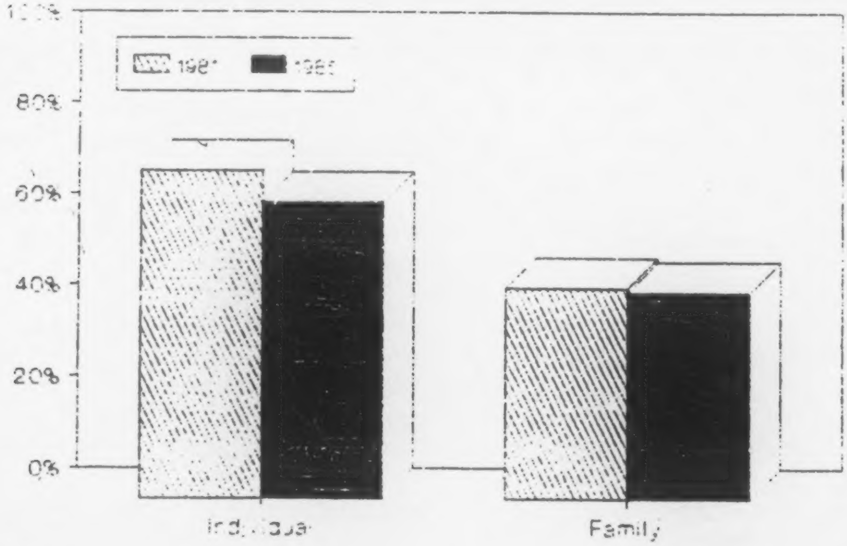
Employee Deductible:
A Comparison Between 1981 and 1985
(After Adjusting For Inflation)



Source: Bureau of Labor Statistics

Figure 7

Employers That Pay 100% of Premium:
A Comparison Between 1981 and 1985



Source: Bureau of Labor Statistics

Figure 8

Representative SCHEUER. Thank you very much for your excellent testimony.

I am going to ask you, after we have heard from our last witness, why it is that the discipline that you urge the Government should press more effectively on the providers hasn't been effected by the purchasers of health service, who should have enormous clout because there are so few of them?

That would include the insurers, the Insurance Association of America that you represent—you must have an insight from your vantage point—Blue Cross and Blue Shield. Why haven't they been able to perform the function that you wish government would perform? And in our system of government, haven't we really asked—perhaps we should ask a little more clearly—haven't we really asked the insurers, the payers, to exercise that discipline over the system?

Why haven't they done it better, and what is the answer? More government intervention, or strengthening the ability and the will of the private payers to exercise this function.

All right, Ms. Choolfaian, you have been very patient and we welcome your testimony. Ms. Choolfaian is executive vice president of St. Luke's-Roosevelt Hospital Center. Please take your 7 or 8 minutes and then I will have some questions for the whole panel.

STATEMENT OF ANNETTE CHOOLFAIAN, EXECUTIVE VICE PRESIDENT FOR PROFESSIONAL AFFAIRS AND PATIENT SERVICES, ST. LUKE'S-ROOSEVELT HOSPITAL CENTER, NEW YORK CITY

Ms. CHOOLFAIAN. Thank you. It is a pleasure to be here today as well.

THE INNER-CITY TEACHING HOSPITAL

I was asked to direct my comments today toward what is happening in a large teaching inner-city hospital.

Representative SCHEUER. A tertiary hosptial.

Ms. CHOOLFAIAN. A tertiary care teaching hospital, all of the words that when one needs care are very happy and exciting, and when one talks about economics, are the bad guys. So I am not sure if I am wearing a halo or horns. I am going to try to talk to a very real world, and I may add more bad news and not good news.

But let me say, before I proceed that at least you understand where I come from professionally, I have for a long time participated in, and actually at one point in my career, developed the first of the Blue Cross and Blue Shield HMO's in a hospital structure; I certainly underwrite and am committed to improving services without decreasing quality. I don't think that just because it costs less, it is not as good.

Representative SCHEUER. So you are familiar with the HMO system as a system.

Ms. CHOOLFAIAN. Yes.

Efficiencies, especially in the way in which we have administered hospital systems, are required and I am not going to spend time on this. I just want you to know I am in no way defending what has been wasteful in the hospital system.

Representative SCHEUER. Of course, the question is how do we identify what is wasteful and what is needed health care?

Ms. CHOOLFAIAN. I think we can talk to some of that in terms of how to measure efficiency, and some of the things that have been identified earlier are there. I think you can look at the order of events. There are quantitative management engineering techniques that can be used to measure change.

The area that I would like to put into the hopper for consideration is that I think when we talk about the hospital, especially one like ours and, just to give you a frame of reference, we are 1,400 beds, three hospital sites, a merged multi-institution facility, we have 450 medical residents, and 25 teaching programs and specialties. We serve the richest and the poorest. There is no municipal hospital in the west side of Manhattan where we are located. We have 300,000 outpatient visits, 150,000 emergency visits, and we are paid by medicare, medicaid, and Blue Cross, so that I guess we represent all the good and all the bad in the system.

Representative SCHEUER. What percentage of those 150,000 emergency visits to the emergency room are really medical emergencies, trauma and so forth? Is the emergency room substituting for the family doctor?

Ms. CHOOLFAIAN. In terms of the poor and underserved population, almost all of the family doctor work is done through the emergency room. And I would say, in the truest definition of "emergency," 15 to 20 percent of the work done in these areas are emergencies. But that has to do with the medical education system as well as the physician system.

Representative SCHEUER. And the rest is a national public health program, I guess, aimed largely at the 37 million Americans who don't have any insurance program.

Ms. CHOOLFAIAN. Absolutely.

Representative SCHEUER. We provided it, in effect, through emergency rooms.

Ms. CHOOLFAIAN. Well, you have provided it in more than that. We need to look at a very important basic question. That is, when we talk about a hospital in the pure sense that my colleagues here have talked about it, that is a nonexistent institution in this country that I know of, at least in the kind of institution I am in.

We serve many, many purposes, and until we look at what it is that is in the health care dollar and define it, we are an educational institution, we are an acute care institution, we are a social institution, we are a rehabilitative institution, and we are a residential facility.

Representative SCHEUER. Would you elaborate on that last sentence?

Ms. CHOOLFAIAN. Patients who do not belong in a hospital—and this is one of the problems I think we have when you make the comparisons that we all make so appropriately in economic numbers—in inner-city hospitals today, patients who have been treated well, effectively and efficiently, who are ready for discharge, have no place to go.

In my institution, out of the 1,300 beds at any given point in time, I have about 100 people who are awaiting placement. And whether you pay me more or less for that, my cost for care of that patient in terms of the fixed cost doesn't change. They are sitting in my hospital.

Now, that percentage is even more dramatic because there are only 800 of those beds that are medical-surgical and that is where those patients sit.

Many other countries have looked at dealing with the aging population in ways other than health. We have mentioned it today, housing and so on. But I don't think you can cut the health care cost until you have replaced the service someplace else. So that the health care effect has to be further down the pike. Don't cut health care first and then go to housing, because those people aren't going to leave my hospital. So really all you are doing is diluting care because a fixed revenue and a fixed patient base means that I have to do the best I can.

NEED TO REDEFINE ALLOWABLE COSTS

And we have a very real schism in this country on that. I mean I go through, daily, all sorts of thoughts as I go through my mail because I get in my mail every day, because of the competitive environment that Mr. Anderson mentioned earlier, brochures that say buy shampoo, brochures advertising a hotel packet, and brochures on how to make your hospital more competitive. You can have chocolates with your hospital emblem on it.

Now, the people selling these things are not, obviously, bad business people. There must be a market and somebody is buying this stuff, and I know that patients are requiring it. It can cost, if you look at some of these things, anywhere from $2 to $4 a patient admission. In my hospital for 45,000 admissions, that would be $150,000 a year for shampoo and chocolate. No health care impact.

It is going on and it drives me crazy that I can't find money for the underserved, and somebody is buying shampoo and chocolate.

So the definition of what the health care system is and how that money gets used, the notion of competition and case payment is good, but the question of allowable costs must be dealt with, and I think we can define what are allowable health care costs so that we will not end up with this inequitable distribution with windfall profits on one side and windfall losses on others.

PERSONNEL SHORTAGES AND RISING COSTS

The other issues I would like to just touch on briefly are some things that are very real in terms of what is happening with health care manpower. We can talk about education, we can talk about saving money, but we better face the fact that the nursing and other health manpower shortages that are occurring today in acute care facilities will require increases in base costs. Nursing represents at least 50 percent of most facilities' costs. You have heard it; it is all over Washington; it is all over this country.

We have already reopened a nursing contract negotiation in our institution, as have many of the other New York City institutions, at an increased cost to us of over a million and a half dollars a year. No one is going to pay that on a real time basis. So what does that mean? We are going to dilute, we are going to shift expenses.

Some of them are being more efficient and so we will get more for the dollar. But I don't think the inefficiency rate is going to end up as high as some of these cost things. Hospitals are hard places to work. The images have been destroyed. That issue must be looked at.

MEDICAL EDUCATION AND RISING COSTS

The second area has to do with graduate medical education, which is I think probably one of the largest cost areas which has to be looked at, as to what are we achieving with that and why. But we must remember that it is inextricably intertwined with the delivery of care. And in institutions like mine and in areas like mine, care to the poor is delivered by the faculty and the house staff. And if they are gone, they will have to be replaced by someone else, and their services will have to be delivered in another way.

So that the cost—take it out, but, then remember that there is a care cost that has to go back in. And so far, the little work that I have seen done in this area shows that it is equal or more expensive to replace positions.

Now, I will not justify nor try to justify—so if you think you have the question, please don't ask it—why it is so expensive and should it be that expensive? We don't have good data, and Mr. Schramm's comments are quite appropriate in that area.

But it may be too expensive. But just like we don't know why it should cost so much, we shouldn't make it too expensive without making changes in the system that are irreversible in terms of care and education. So drop it, yes; but watch how low we go and let's be careful and make these changes slowly and measure their impact.

AIDS

The third area I would like to talk about is AIDS. We have not discussed that today and I can understand why it isn't yet a medicare problem. I think it may well become a medicare problem, but it is a government problem.

Representative SCHEUER. How could it become a medicare problem? By means of drugs that prolong the life of a person during their sexually active years to the point where they get to be 65 or 70, and they still have the problem in their systems?

Ms. CHOOLFAIAN. Well, yes.

The notion that we don't have AIDS patients who are 59 or 60 years old is not real. So that this population, and we've seen this in—if you look at things like cystic fibrosis or leukemia, we have seen diseases which, if they don't get cured, end up in the long haul, lengthening life, or from other points of view, a disability point of view or whatever.

So that the potential of AIDS to have long-term impact on medicare is great, and the notion that the national statistics, although they show that this is a problem limited to particular groups at this point in time, when you start to look at it in the more specific base, you find that isn't the case.

In New York, for instance, to give you a sense of the magnitude of what we are dealing with in this context, these patients represent about $18,000 per year per patient. The increased incidence is expected to result in a need by 1991, by recent studies done in New York, an additional 1,300 to 1,500 hospital beds. That is almost one-third to 50 percent of the beds that have been cut out of the system that may have to be put back into the system.

It is one of the reasons we are seeing in New York none of the trends that we expected to see that happened every place else. I know New York is different. We never do anything the way everybody else does it, but in fact our occupancy rate today are over 90 percent in the overall hospital and over 100 percent in the medical-surgical areas.

The issue is with patients waiting in the emergency rooms.

Representative SCHEUER. In what kind of hospitals?

Ms. CHOOLFAIAN. Medical-surgical beds. The adult medical-surgical beds.

Representative SCHEUER. Ninety percent of them are in——

Ms. CHOOLFAIAN. No. Over 100 percent occupancy in our medical-surgical beds. And if you do overall, when you include obstetrics and pediatrics, it is over 90 percent occupancy.

With patients in emergency rooms, from 1 to 3 days sometimes, waiting for admission. So that the effect of AIDS and the effect of patients not being able to leave the hospital for other facilities are all critical issues that have to be looked at.

I have other information about AIDS if you want to pursue that, but I won't take the time now.

Representative SCHEUER. Are those views in your prepared statement?

Ms. CHOOLFAIAN. Yes.

Representative SCHEUER. Very good.

DEFINING PRIORITIES

Ms. CHOOLFAIAN. The last two points really deal with the question of capital improvements which are going to have to be looked at. And again I think the same kinds of things in terms of how we look at the system, all of these things are measurable and it doesn't mean that everybody should get a lot of money, but it means that we should define quantitative measures. There are ways to quantitatively measure the state of buildings, age, and so forth.

So that to simply go across the board and throw money at an institution because that is what their percentage is is one which means we are going to lose. And I think the fundamental principle of just saying you, individual hospital, control how money gets spent on the other side says that many will receive shampoo and chocolate and others will not receive facilities and care.

I will stop there and take any questions you have.

[The prepared statement of Ms. Choolfaian follows:]

PREPARED STATEMENT OF ANNETTE CHOOLFAIAN

Good morning. My name is Annette Choolfaian. I am Executive Vice President of the St. Luke's-Roosevelt Hospital Center in New York City. St. Luke's-Roosevelt Hospital Center is the largest voluntary teaching hospital in New York City. We train almost 450 residents within 25 accredited medical specialty programs. We are affiliated with Columbia University College of Physician & Surgeons. We operate two full service acute care facilities with a combined total of 1315 acute care beds; we provide approximately 420,000 days of care to 45,000 inpatients per year; and our current occupancy is over 90%. Our hospital clinics and outreach and community programs receive more than 300,000 patient visits per year and our two active emergency departments treat 150,000 patients per year. We employ 6,600 people. Like most urban teaching hospitals our patient population includes both rich and poor - the ordinary and the famous. Our neighborhood on Manhattan's West Side includes luxurious cooperative apartments, Lincoln Center, elegant shops, restaurants, large and small businesses as well as neighborhoods of poverty that are federally designated medically underserved and health manpower shortage areas. St. Luke's-Roosevelt Hospital Center receives one of the highest payments to a voluntary hospital from New York State's Bad Debt and Charity Pool for uninsured patients.

In 1988, the Hospital's operating budget is almost $350,000,000. Medicare, Medicaid and Blue Cross account for almost 80% of our patient reimbursement. Therefore, adequate federal and state reimbursement policies that recognize the complexity and expenses of the urban teaching hospital environment are essential to our survival.

I appreciate the opportunity to share with you my thinking on current and future payment methods for the payment of hospital care.

I will begin by identifying some of the general principles which I think must be incorporated into any payment system. In addition, I will highlight six specific areas of health care reimbursement that significantly affect the quantity and quality of services we deliver in the inner city teaching hospital. They include AIDS, payment for graduate medical education, reimbursement for nursing and other health manpower, reimbursement for capital expenditures, payment for long term care, and reimbursement for indigent care.

Please be assured that I am a strong advocate of cost containment in the health care sector through efficient use of services and facilities. However we must be sure that quality of care is maintained in any effective reimbursement system.

A hospital reimbursement system should reflect the full range of hospital costs incurred including operating cost, depreciation, interest, education and bad debt and charity care. We must recognize that the urban hospital system is similar to the urban infra structure of bridges and roads. It must be maintained, upgraded and enhanced before it collapses.

A health care reimbursement system must also reflect general principles and be:

Equitable - Our most important concern is how our health care dollars are distributed. Equity dictates that consideration be given to factors other than competitive pricing. Windfall profits for one sector of health care can mean windfall losses for another. Demographics of a region must be considered when pricing health care. The economic status, age, and diversity of a community have an effect on the type and cost of health services which are utilized.

Flexible and Responsive - Hospitals operate in an ever changing environment and they are the first line of defense for a myriad of medical and social problems. If our financing system is not able to repond with additional monies when appropriate, it will be impossible to maintain an acceptable standard of care. Currently, when additional unreimbursed costs are incurred and payment is not received patient care becomes diluted. Our payment system must be able to repond to situations such as new diseases (AIDS), new technologies (MRI), new treatments (TPA), new safety systems(e.g. hazardous waste disposal) and manpower needs. Additional money will be required to meet these needs. It is difficult to be reimbursed for care when it is calculated on a base year that is at best two years old and incompletely reflects current needs and expenditures.

Cost effective - Incentives to operate effectively are important and should be built into any reimbursement system. They should be structured so that both the provider and the payor benefit.

Reflective of a continuum of care - One of the greatest problems we face is the lack of understanding that the reimbursement system does not control the physiological, physcological and social needs of a patient. We recognize that acute care services must be carefully defined so that appropriate care will be paid for in appropriate settings. However, discontinuing or limiting payment for a level of service does not erase a patients need for care. It is imperative that we ask ourselves what will the patient need next, where will this care be delivered and how it will be reimbursed.

Hospitals are legally and morally required to provide care on demand and are not able to "throw patients out." Hospitals face real disposition problems and must care for patients until appropriate settings can be found, despite reimbursement penalties. Limited revenues still must support care for all patients regardless of their coverage. The real world impact of reimbursement dicta must be carefully understood before they are mandated across the board with negative consequences and thus effect the overall quality of service being provided.

NURSING AND HEALTH MANPOWER SHORTAGES

Let me begin my discussion of specific reimbursement problems with nursing and other health manpower shortages.

Hospitals are labor intensive systems that require highly specialized professional skills. The health industry is entering into a period of severe manpower shortages which affects the quality and quantity of health service. Although we have faced shortages before, this time will be different. In the past we were able to somehow "make do" by stretching services and staff and eliminating amenities. Today there is little left to safely eliminate and we are faced with a more acutely ill patient who is being cared for in a high technology, sophisticated, scientific environment. We must have highly skilled staff at the bed side, or in their absence, the service will not be delivered.

Urban teaching hospitals average anywhere from a 10-25% nursing vacancy rate. There is now increased competition for a declining pool of nurses. This shortage of nurses is having a serious impact on our critical care units and our medical-surgical practice areas.

Many of the major teaching hospitals in New York City have already been forced to reopen their nursing contracts this year and have increased nursing salaries by almost 3% to a starting salary of $28,500. The annual impact of this type of increase on an institution like ours is $1,200,000 per annum. None of these dollars are factored into our current reimbursement rates. These increases in salaries will at best assist us in improved retention but they will not increase the supply of nurses. Funding will be required to support the implementation of innovative patient care delivery models with redefined roles for nurses and other professional and support staff. In addition, we must continue to evaluate nursing benefits to retain and attract these critical professionals. We will have to increase non salary benefits such as pension plans, flexible scheduling, day care and retention incentives. The reimbursement system must be able to respond to these problems on a realtime basis.

GRADUATE MEDICAL EDUCATION

The second area I would like to address today is graduate medical education. As I mentioned earlier, St. Luke's-Roosevelt Hospital Center is a major provider of residency programs in the city, and trains 450 residents and interns. Medical Education cost us almost $32 million per year in 1988.

Residents and interns provide the majority of the direct physician care for the poor and the indigent. Interns and residents work long hours to deliver this care. Their presence creates the ambiance of excellence of the teaching hospital. These residents and our attending physicians who teach and supervise them, are the basis of the quality of care we provide. Despite the flaws of the current teaching and training system, hospitals somehow manage to provide excellent training while delivering quality care. The system is big, complex and expensive and is stretched to the limit. Today it is more threatened than at any time in the past fifty years. Graduate Medical Education payments are being reviewed by the Medicare program and substantial negative revisions may be implemented in the near future.

The current administration views limiting federal payment for graduate medical education as a way to decrease the federal health budget. They would like to view this as a local and state issue. The system is too complex and too essential to be financed by states and localities who cannot afford to pay for it. Hospitals simply cannot afford unreasonable cuts in payment for graduate medical training. What is needed is a more rational approach to this problem.

Current reimbursement mechanisms also do not allow hospitals to substitute attending physicians and non-physician providers for residents. If teaching programs are cut back, hospitals will be forced to replace housestaff with other staff at a much higher cost to the institution.

If training programs are reduced and payments further constrained, those who will undoubtedly be hurt are those with the poorest access to care, at most risk for disease and who depend on teaching hospitals for primary and emergency services. I urge you to ensure that the federal government continues to support this system and avoid precipitous action which will not be easily reversed.

AIDS

Clearly, AIDS and AIDS related diseases are having an enormous impact on utilization of health services, as well as on costs of providing care. St. Luke's-Roosevelt Hospital Center has an average daily census of almost 70 AIDS patients. We were the first voluntary teaching hospital to be designated an AIDS Center by New York State.

A study conducted by our hospitals showed that AIDS patients require 8.9 hours of nursing care per day, while the average medical-surgical patient requires 4 hours of nursing care per day. AIDS patients had an average of 36 physician visits per hospital admission. In addition, social work, pharmacy, chaplaincy, dietary and housekeeping staff have been severly stretched.

To combat staff fear and prevent burnout, we have instituted extensive staff education. Training has focused on the course of the disease, infection control, transmission and treatment problems and coping with the emotional and human dimensions of the problem.

To care for AIDS patients, we use more resources - including disposables such as gloves, masks and gowns, and pharmaceuticals - as well as personnel. This translates into costs. In addition to the costs directly associated with caring for AIDS patients, there are increased costs associated with overall changes needed in the hospital to provide adequate support. For example, because of the need to treat all blood and body fluids as potentially infectious, we have had to institute more extensive infection control procedures or "blood and body fluid precautions." As a result, the number of infection control nurses at St. Luke's- Roosevelt Hospital Center has doubled. The need for special medical-surgical "precaution supplies" has also increased.

In 1988, the cost of caring for all our AIDS patients is estimated at $12 million. In addition, it will cost $1.2 million in specialized carting costs for infections wastes.

Our 1987 per diem costs, which averaged $515 for non-AIDS patients, were $732 per AIDS patient. The cost of care for any AIDS patient is estimated at over $18,000 per year. We have estimated the cost of treating a patient over the course of the disease at $75,000. Existing reimbursement methodologies do not yet recognize the full costs of providing care to AIDS patients.

The problem of caring for AIDS patients is increasing. By 1991, it is estimated that there will be a cumulative incidence of 45,000 cases of AIDS in New York State. It is now estimated that 50 to 60 percent of New York City's 200,000 IV drug users are HIV positive. As the balance of cases shifts to a higher proportion of difficult to manage drug abuse patients, we can expect an unprecedented need for clinical, personal, and psychosocial care from the hospital.

Conservative estimates project the need for an additional 1,300 to 1,500 hospital beds in New York City for the care of AIDS patients. These beds do not exist now and will need to be added to the system. Also needed are significant increases in ambulatory care, home care, long-term care and hospice for people with AIDS.

PATIENTS AWAITING NON ACUTE SERVICES

The occupancy problem currently faced by New York City's hospitals is compounded by the lack of adequate and appropriate long term care services. Changing demographics, including the increase of the elderly, the growth of the old, and the increase in life expectancy of the younger chronically disabled are contributing to an increase in demand for long term care services. But other problems, such as the lack of appropriate and affordable housing, the increase in the homeless population, the AIDS epidemic and a host of other social problems are affecting the demand for long term care. This increasing demand has continued, while the resource base has remained relatively constant. Until just over a year ago, there was a moratorium on the construction of new nursing home beds in New York State. A moratorium on the expansion of adult day care services has just ended after a two year period.

Patients spend a relatively long period of time in an acute hospital bed because more appropriate after-care services cannot be secured in a timely fashion. In our hospital alone, there are almost 100 patients on any given day who do not belong there. At the same time, 10-15 patients are awaiting acute care beds in both of our two active emergency departments.

The incentives created by the current reimbursement system now place hospitals at significant financial risk for caring for these patients. Hospitals over the average daily census threshold for alternative care patients will now be reimbursed at a nursing home rate. This represents a substantial loss to the hospital. While it costs in the neighborhood of $500 per day to care for a patient in an acute care bed, the cost of caring for that same patient in a nursing home bed costs from $95 to $150 per day. The acute care hospitals must absorb the shortfall between the true costs of an inpatient stay and the lowered reimbursement rate.

REIMBURSEMENT FOR APPROVED CAPITAL EXPENDITURES

Another area of utmost importance to us is reimbursment for capital expenditures. Our Hospital Center is in dire need of a vastly improved physical plant. Its existing facilities are deteriorated. Seventeen of its twenty-six buildings are more than thirty-five years old, six were built before 1900 and twelve before 1925. Our nurses work in long dead end corridors where they cannot see their patients. Many of our patient rooms have no medical gasses. Yet, our medical-surgical occupancy rate is almost 91%.

The State of New York has just given us permission to rebuild and undertake a major renovation program. This program will cost $467 million. A significant portion of this cost will be financed by federally backed New York State issued tax-exempt bonds. Yet, our reimbursement is jeopardized by medical capital payment regulations which discontinue reasonable cost payment for approved capital costs. Cost based reimbursement for capital is now subject to discounts. This discounting system now creates a capital shortfall of $163,000 and we have not yet begun to rebuild. If capital payments are folded into the prospective payment system, as proposed by HCFA, our Hospital could lose anywhere from $10 to $15 million over 10 years of capital reimbursement for our essential renovation program. I do not think this committee should support a federal policy which penalizes older teaching hospitals which need to rebuild to continue to serve a broad spectrum of patients, frequently in inner city communities. This same policy rewards new hospitals with low capital costs which often do not have equal service commitments.

INDIGENT CARE

Finally, St. Luke's-Roosevelt Hospital Center provides excellent care to all those who come to it, in large part because the State of New York insures payment for service to those indigent patients who have no means to pay for that care. All charity and indigent care payments should be borne by all payors including Medicare. Any future health care system, no matter how it is organized, regulated, and financed will only be successful if it includes a way to take care of the poor, the needy and all those in society who are not getting the health care they need.

In summary, the problems I have identified highlight the complexities of providing care to patients in an inner-city teaching hospital. We are treating the most medically and socially disadvantaged patients in antiquated physical plants, with frightening high occupancy, and limited staff resources. Current reimbursement regulations fail to recognize these unique dynamics and more importantly, they do not allow hospitals to recover costs as expenditures are made. As you deliberate on the future of health care reimbursement, I urge you to consider these issues. Regardless of the precise mechanism for reimbursement, we need a system that recognizes these problems and reimburses us in a timely fashion for the care we deliver, so that we can continue to make services available to all in need.

Representative SCHEUER. Basic facilities and basic care.

Ms. CHOOLFAIAN. Basic facilities and basic care; yes.

Representative SCHEUER. Society has made a really unacceptable tradeoff there between denying basic health care and basic quality care to some in exchange for chocolate and shampoo to others.

Ms. CHOOLFAIAN. If we do not make adjustments in the system—as an example, our institution is—most of our buildings are over 30 years old. Some are 100 years old. We have an approved capital program.

If in fact some of the medicare changes were to go into place, we would have $15 million a year of our program uncovered. I am talking about putting in piped-in oxygen and suction.

Representative SCHEUER. That ain't chocolates.

Ms. CHOOLFAIAN. No.

I need to rebuild that. And like our roads and bridges, if we don't rebuild the inner-city teaching institutions in our hospitals, they are going to fall apart.

That is not to say that a brand new hospital shouldn't be maintained. It should. But there has to be some judgments put into place, quantitative ones, not emotional ones, and it is doable in my mind, to balance the distribution of the funds as we start to save the funds, and also not move them into outpatient areas, but move them into other institutional kinds of settings.

That deals with quality of life issues for the elderly. Mr. Schramm talked about hospitals being deleterious. He is right. If you are an old person in this country, you get out of a hospital and get out of it fast, as soon as you can, because the longer you stay, if you don't have to go, you will get sicker and sicker, and I suspect you will die. It is just because it is not the place to be.

Representative SCHEUER. Nosocomial infections and the like.

Ms. CHOOLFAIAN. Nosocomial infections, disorientation, a fall. You know, the classic thing is an older person who has no place to go, is confused, doesn't need the hospital, gets up at night, falls, fractures a hip, and then has all the complications associated with that.

If they had been in the right place and had a different kind of environment, their orientation probably wouldn't have been so confused to begin with. And then you figure out that expense and figure out what happened in that process.

Representative SCHEUER. There is a rollcall vote.

I want to thank you for your splendid testimony, Ms. Choolfaian. It was terrific. This has been a dynamite panel. I will catch that rollcall vote.

We will suspend for about 20 minutes.

[A 20-minute recess was taken.]

Representative SCHEUER. This was an absolutely marvelous panel and I apologize for the interruptions. As you know, we had two rollcall votes, not just one.

Let me ask you, Ms. Choolfaian, how do we separate quality from frills? How do we apply appropriateness so as to differentiate between needed health care and other expenditures on things that we don't need that seem unproductive, uneconomic, wasteful, and just exorcise those things out of the system? How do we make those tough judgments?

Ms. CHOOLFAIAN. Some of them are easier than others, but I think it really begins by defining more clearly the notion of allowable costs. I think that some of the latitude that has been built into the system in that context has to be looked at.

There, I think, is where sometimes the question of frills from basics can be separated. I think that same thing has to be looked at in terms of the standards of hospitals and in terms of the structures, the physical facilities as well. And that is a tremendous variable from State to State.

You talked earlier about Japan and some of the other countries. One of the things that I noticed as I visited those places, and had some of the same reactions you did, was that they had a sense of simplicity about health.

Representative SCHEUER. Of simplicity.

Ms. CHOOLFAIAN. Yes.

Representative SCHEUER. Absolutely. That is exactly the right word for it.

Ms. CHOOLFAIAN. We have lost that sense of simplicity in our competitive environment, and every hospital administrator that I talk to is trying to figure out how his or her hospital can be like the Willard, and they shouldn't be like the Willard. But if someone is not going to come to me because someone else is like the Willard, then I am in trouble.

So the allowable cost notion is one which I think can be developed further. The definition of what is the basic hospital structure, and what it is in terms of capital and maintenance and the technological things.

Appropriateness, in terms of the utilization of a facility, is of course, as you know better than I, a very complex question. I think appropriateness is going to have to begin with greater definition on the part of the medical profession in terms of what really are proper protocols of treatment of care.

The variability that exists today in the way something is treated and the breadth and scope of latitude physicians have is a question that is going to have to be addressed. I don't know the rights or the wrongs of it, I can argue both sides pretty effectively if I try hard enough, but there must be something that intelligent physician medical professionals can sit down and look and say that you cannot treat the same disease this broadly in the spectrum.

So that to begin with appropriateness, we have to deal with some sense of medical protocol. We also must deal with malpractice.

Representative SCHEUER. Are you talking about widely varying rates per 100,000 for operations like hysterectomies?

Ms. CHOOLFAIAN. Yes, exactly.

Or treatments used and not used and the incidence. You take similar looking diagnoses, and I can't think of one offhand, but when the incidence of the use of medication—there is a very big piece that we as Americans don't deal with, and that is the issue of death and dying.

What are we keeping alive in our intensive care units of these hospitals? What are we growing in our neonatal intensive care units? The babies that we save who may for years remain as dependents on society.

Representative SCHEUER. Or may be institutionalized for a lifetime because of severe brain damage.

Ms. CHOOLFAIAN. Exactly.

The people who are on respirators and sitting in intensive care units, we are just beginning to deal with things like making decisions about disconnecting these things. But we have been put into a legal structure that doesn't allow the hospital or the physician or the family the right to collectively make these decisions without incredible risks.

Representative SCHEUER. Or the individual involved, if that individual hasn't made the most precise and sophisticated legal statement when in possession of their full faculties. The clear wishes of the patient are frequently ignored by the community the way those decisions are made.

Ms. CHOOLFAIAN. With no choice on the part of the community because of the results. I mean if a doctor or a hospital administrator thinks that they could end up being the benchmark case for a murder charge, no. There is a limit to what risks people will take.

So, I think some of the problems that we are facing are that we have tried to come up with economic answers for ethical questions, and if we deal with some of these issues about the right to die, about at what point does the medical protocol end, we will have economic change without effect on quality, and without having to change the reimbursement.

You see, it is not how much you pay for the service; it is how long it goes on. And you don't control that by saying you are not going to pay for it.

So I think appropriateness sits more with medical protocol and with ethical decisions, and we have to tighten that up and develop not cookbooks, but certainly guides which can serve physicians and reviewers of that as ways in which to look at things. And at the same time, we have to deal with the ethical issues and some of these other questions. It is huge, what goes on.

Representative SCHEUER. Does anybody else want to respond to that?

Yes, Mr. Owen.

NEED CHANGE IN PUBLIC'S ATTITUDE

Mr. OWEN. Just a couple of comments because I think it is in the same vein. I agree.

The problem is the expectation that the public and people have in the health care system, that medicine is an art and it is not a science.

Representative SCHEUER. Mr. Owen, I was saving a question for you on just that point. You did say during your testimony that people want more health care. They expect more.

Now, the question is: More of what? Do they want more of the chocolates and the shampoo, or do they want pure health care, new technology that is cost effective and will enhance their health, not degrade their health?

What do they want? And if what they want is the Willard, as we have heard from Ms. Choolfaian, with chocolates and shampoo, how do we convince them in a caring, compassionate, sensitive way, that this kind of care isn't in the cards unless they are willing to pay for it privately.

Mr. OWEN. If they are willing to pay for it privately, that is a different matter, and I think the question of how much somebody else is going to pay for your care can be limited.

But let me pose a question to you because I think this is the kind of thing we have been talking about and it has to do with the quality of the care. If you are taking care of a group of patients with a certain diagnosis and it is estimated, doing a good job, that 98 out of 100 of those patients will survive, then we would say the quality may be very good.

But if I came to you and said, if I spent $1,000 more on each of those 100 patients, with a few more tests and a few more things, I could save one more.

Representative SCHEUER. Out of 100?

Mr. OWEN. Out of 100.

Now we would have 99 percent. Would you say, go ahead and spend that money? Most people will say go ahead and spend the money, and spend even more to try and save the 100th person.

I think that is what Annette Choolfaian was getting at earlier. That is, our expectations of what you can expect out of the system has come to a point beyond reality. We must recognize medicine is an art and it is not a science, and there is a limit to how many people we can save. But at this stage in the game no one is ready to step up and say for these many dollars, we can save this many people out of a group.

You remember, you spent time in the Army—I did—when an officer decided we were going to go into battle, they looked to see how many men we were going to lose. It wasn't each individual man. It was we can lose 20 percent and we can take this island or this hilltop, then we will do it. And that was worth the risk.

We don't do that in health care. We want to be 100 percent sure.

I think I have made my point.

REDUCE SERVICES TO REDUCE EXPENDITURES

Representative SCHEUER. Does anybody else wish to comment?

Yes, Dr. Young.

Dr. YOUNG. First of all, these comments are my personal comments. This is an issue that the Commission has not discussed at length. But I certainly agree with Mr. Owen.

As a society, I don't think we can talk only about reducing expenditures. We have to talk about reducing services, not expenditures. And even if we eliminate services of questionable value, we place ourselves as individuals at risk, risk for decreased quality of care and risk for death.

Representative SCHEUER. Why is it decreased quality of care if the services you are eliminating are of questionable value?

Dr. YOUNG. Because they are of questionable value, because our knowledge base is not precise enough to say an absolute yes and no; it is a matter of judgment.

The services such as were discussed earlier this morning, which include fetal monitoring, frequently have very little risk. If you make a mistake in judgment, however, and do not monitor a patient, the price that you pay may be a very large one in terms of liabilities.

We don't know enough to say with precision that these first five people should be monitored and the next five should not. There is an immense amount of gray and an immense amount of judgment there.

Likewise with many other procedures which have been shown to be significantly overused, we have spent over $200 million on coronary artery surgery research in this country; we still cannot answer the question definitively which patient should have coronary artery surgery and which patient should not. We know some patients definitely should and some that definitely should not, and there is a huge amount of gray in the middle.

I can go through hysterectomies, prostate surgery, coronary artery surgery, virtually everything that is medicine. Part of the choice comes about on an individual's own personal value system. It is not a medical question. It is the individual's value system. There is a 10-percent chance you will die during the surgery, but if you survive you will be cured, and a 10-percent chance that you will die from your disease in 5 years. What do you want to do in terms of the surgery? It is your value system.

If I am a businessman traveling throughout the world and I have gallstones, I am going to want those gallstones removed electively when I am at home with good care, rather than risking having a gallbladder attack when I am traveling in Africa.

Representative SCHEUER. You may want to have them removed in England or one of the other countries with a first-class national health service, rather than coming home and perhaps paying for it out of your pocket.

Dr. YOUNG. That raises the question of the role of who pays and how much is paid.

Representative SCHEUER. There are lots of countries where it makes a heck of a lot of sense to get sick, rather than the United States.

Dr. YOUNG. If you happen to be in England, and I am simply raising an alternative point of view, if you happen to be in England and you wish to have this done, though, you have to queue for a year.

Representative SCHEUER. That is their method of health rationing.

Dr. YOUNG. So it is not exactly going to England to have it done.

I don't think anyone at this panel would question that the quality of the care furnished here, the technical capability in this country, our knowledge, or understanding, our resources—I think that we would prefer to do it here. I don't think we are questioning where it should be done in terms of the quality.

What we are questioning is the value to us as a society in terms of these procedures. My point is, No. 1, that value judgment frequently resides with the individual. No. 2, we as a society place immense value on the life of an individual, on a single identifiable person. We place much less value on populations that are not clearly defined as individuals.

Representative SCHEUER. Populations at risk who aren't being served.

Dr. YOUNG. That is correct.

But if we have one individual before us and we choose not to provide him or her services, it makes the evening news, it makes the newspaper and it creates a lot of correspondence to your office. Every medicare beneficiary in this country has a Congressman and many of them know the address, as I am sure you are aware.

My point is, the issue is one of services and we are going to have to reduce services if we wish to reduce expenditures. And if we reduce services, we put ourselves at some risk for diminished quality of care.

Do we as a nation wish to do that? And I am increasingly of the view of Mr. Anderson, that the revealed preference for the present is that we don't wish to take that risk. We will let the proportion of our expenditures for health increase in terms of the gross national product. That is our wish as a society.

COST CONTROL ALTERNATIVES

Representative SCHEUER. I would still quarrel with that.

You say if you want to reduce the expenses we have to reduce services. I take it you are talking about pure health services, pure health care services.

Aren't there a lot of other ways in which we can reduce expenses that will not impinge on pure health services? We have frills, we have nonessentials, we have bureaucratic snarls and tangles that could be straightened out.

Dr. YOUNG. There is certainly room for more efficiencies. As I point out in my prepared statement, I think that the medicare prospective payment system has made a definite contribution through its incentives. It has increased pressures for hospitals to be more efficient, and in the first year or two, indeed they were more efficient.

I am not denying that there cannot be more efficiencies. In the area of administrative costs, there can probably be significant improvements in terms of bureaucratic requirements.

On the other hand, those requirements are there to achieve a lot of important social goals and I don't think that there is a lot there today that can be immediately cut and eliminated without us paying a price for it.

Representative SCHEUER. What kind of a price? A social price, a medical price, or mortality price?

Dr. YOUNG. Potentially all of the above. The risk is that there will be 1 out of 100 who doesn't get a service who dies. The risk will be that there will be a mother who did not get the fetal monitoring who had a brain-damaged child. That is the risk. And the price is that risk.

It will differ by differing forms and kinds of services, but it is there. It is an issue that has two sides.

Now, my point was not that I have necessarily signed up on one side or the other, but rather I think society has begun to sign up.

I, for myself, would just as soon have those services and live if there is a chance. I am not quite as concerned about the other 200 million people, but I am very concerned about myself and about my parents, and most individuals are very concerned about themselves.

You add enough of those people concerned about themselves, and you have the population. That is the point I am trying to make.

Representative **Scheuer**. Yes. Identify yourself for the record, please.

Mr. **Snyder**. I am Bob Snyder and I am with Sue Gleeson.

That extends into the market we are in, the Blue Cross and Blue Shield coverage and insurance coverage. Accounts and subscribers are the ones that determine the level of coverage that they want to buy. If we offer products which, for example, limit choice of what institutions you could go to, or make it more expensive to go to certain institutions or other kinds of institutions, if that market doesn't want to buy those products, they are simply not going to be successful. And there are other people in the market that are willing to sell products to them that they will buy.

So that some of the controls that we would like to see imposed or instituted simply in the past haven't sold in the market. It is getting better, but these kinds of choices extend very much into the markets we operate in.

Representative **Scheuer**. Let me just give you one example of an inefficiency and a failing productivity that hasn't really been addressed in this country.

My understanding is that in Sweden, they have 1.2 or 1.3 or 1.4 employees per hospital bed, and that in our country it is 4.2 or 4.3 or 4.4, something like that, well over twice as many employees per hospital bed here as they have in Sweden.

I know of no data that show that Swedish hospital care is less effective than our hospital care. Why is it that they can get along with half the employees per hospital bed than we have in our country, less than half? And isn't there something that we can do about that?

Mr. **Owen**. Let me just take that specific example. Somebody else here may want to add to it.

First of all, you have to remember that Sweden has a socialized medical system, that they have long lengths of stay in their hospitals, and they have more beds per thousand than we have, and the cost of those beds is much more. They just don't think of bed per capita like we do.

Let me finish what I am saying. Because they have those kinds of beds and because they have patients in there who are not sick, the number of personnel needed are less because they don't have the intensive care.

And I think it was brought out earlier, the kind of patients we are getting now, our less sick people are going as outpatients, and so we have very sick people in our hospitals today, and it takes a lot of people to take care of them.

So that when you look at the number of personnel per bed, that has quite a bit to do with that when you compare us to Sweden. Now, you could still argue that we may have too many per bed for what we are doing and I think it would be a better argument, but to compare us to the Swedish system would not be quite right because I think they are handling a different kind of patient than we are handling.

Representative **Scheuer**. That is a respectable argument. No question about it.

Yes, Ms. Choolfaian.

Ms. Choolfaian. I would add to that in another way. I think that part of what has happened is learning some things a little bit later than we probably should have.

Productivity and efficiency in terms of work force was not a science that existed in the hospital union's armamentarium. It just wasn't there in many places. And I think that is one of the retrospective faults one could identify in the system in terms of waste.

But what has happened, and it is the point Jack Owen made, is that as we have become more conscious about productivity, the intensity has gone up, so that the drama of the change that could have been made is not really there.

I don't think I agree necessarily, though, with a couple of other things that some people said about changing the system. I agree we have to look at services, but I don't think we are looking at the two ends of the spectrum. And if we look at the two ends of the spectrum of that health care system, with this notion of appropriateness—that is, the people who do not need hospital care but are sitting in hospital beds, and the people who are getting the most intensive care—and really we should affect the mortality and say enough is enough.

I don't think, in fact, those decisions are decisions that people are not willing to make. I think people are willing to make those decisions. I think physicians are willing to make those decisions. I think the legal system is not letting a lot of them do that at this point in time.

You may want to look into this question. Right now, I think that the American College of Neurologists, or whatever is the professional group of neurologists, are coming out with a statement of what neurologists can say as to the status, the brain status of patients who are not brain dead by brain-dead definitions, but what is the percentage of recovery. And when they say 97 percent or something like that, they are afraid that if the internist who disconnects the patient is one of the 3 percent, what it is going to be.

And now there is going to be a national statement by a professional group, and really all it is in many ways is a defensive statement to protect them from having to be the decisionmaker or being pointed at as the decisionmaker.

So I think the ends of the spectrum can produce a lot.

Representative Scheuer. Thank you.

This has been a terrific hearing. We have an additional rollcall vote. The second bells have rung. I have about 8½ minutes to get to the floor. I want to thank you all profoundly for a truly extraordinarily helpful and rich and meaningful hearing.

We are all in your debt. Thank you very, very much.

[Whereupon, at 12:56 p.m., the subcommittee adjourned, subject to the call of the Chair.]

THE FUTURE OF HEALTH CARE IN AMERICA

TUESDAY, MAY 24, 1988

Congress of the United States,
Subcommittee on Education and Health
of the Joint Economic Committee,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m., in room 2247, Rayburn House Office Building, Hon. James H. Scheuer (chairman of the subcommittee) presiding.

Present: Representative Scheuer.

Also present: David Podoff and Dayna Hutchings, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE SCHEUER, CHAIRMAN

Representative Scheuer. Today, we continue with the fifth in this series of hearings on "The Future of Health Care in America."

Today, our focus is on the role of modern technology in the health care system; modern technology from the point of view of treatment, modern technology from the point of view of management of hospitals and costs, modern technology from the point of view of diagnosis, and modern technology from the point of view of controlling and rationalizing the flow of information and data within hospitals and between hospitals; in other words, helping hospital management personnel do their job more effectively.

Those are some very challenging horizons that we are facing today.

Perhaps the most astonishing—well, there are two astonishing statistics that have come out of this hearing, although one of them is no great secret, and that is that America is spending approximately 12 percent of GNP on health care.

Now, that is higher than any other country in the world, and it's 50 percent higher than the average for the OECD countries, which spend an average of about 8 percent on health care.

Is it perfectly clear that we are getting 50 percent better care than the OECD countries, including the Pacific Rim countries of Japan, Australia, and New Zealand? Of course it's not. And in many areas, we are getting significantly worse health care than those countries, as indicated by our statistics on infant mortality or life expectancy.

It seems unquestioned that there is a great deal of thinking to do about how we can rationalize the present very expensive system that is not, on the whole, differentiated in its results.

Many Americans receive care that is equal to or superior to any health care system in the world. But for many other Americans—for 37 million Americans who are not insured and for the elderly who do not have long-term care protection—the system is flawed.

Uwe Reinhardt testified that he thought that there was a 20-percent price for diversity and heterogeneity and pluralism; that is, 20 percent of our health care system, which in total amounts to 12 percent of GNP.

So, we are talking about almost 2.5 percent of GNP being spent for this rather ephemeral result of diversity, heterogeneity, and pluralism. Some of that may represent real value in this country. Perhaps some of it does not and perhaps the system can be streamlined. It seems to me that we have to do some profound thinking about the organization of our health care system.

The representative of the American Medical Association noted that, "The AMA believes that the price or charge for a service is a matter between the provider of a service and the recipient, and this philosophy carries over to situations where the service involved is medical care."

Of course, an obvious question is raised as to the validity of this theory by the fact that most of our bills are not paid by the recipient, they are paid by third-party payers. Where do they get into the act? Where do they have a chance to impact the system?

So, these are some very profound structural problems that will have to be addressed.

In our third and fourth hearings we heard from experts who talked about the system—or nonsystem—of how we compensate hospitals for care, and how we compensate doctors for care. It is perfectly evident that some profound rethinking has to be done.

So, let us turn to the subject that is at issue today, which is: technology.

Of course, technology can make remarkable contributions to our health through diagnostic techniques such as: computer-assisted diagnosis; CAT scans; magnetic resonance imaging—MRI; and with advanced surgical procedures such as heart bypass.

But some of these systems can be very expensive, and sometimes they are used unnecessarily, or are overused. Sometimes they are used as the result of the specter of medical malpractice suits hanging over the doctors' heads when medically they probably are not appropriate.

So, we will be considering today a number of issues such as:

One, how can we evaluate the effectiveness of medical technology without curtailing its development?

Two, how can we avoid expensive duplication of complex equipment such as CAT scanners without denying access when the latest technology is needed?

Three, is some kind of more effective regional planning for the availability of these very expensive procedures indicated?

Four, how will the prospective payment system—PPS—discussed at least week's hearing, affect the willingness of hospitals to install the most modern diagnostic equipment and medical facilities?

Five, do all hospitals need all of these things, can there not be some specialization, some sharing?

Six, how can we use modern, up-to-date information systems to monitor patient care and improve the management of hospitals?

Seven, how do we ensure that the latest technology is used to improve patient care and not, as I said before, part of a defensive strategy designed to avoid malpractice suits?

Eight, how can we use high technology to employ the computer, which can store and relate millions, if not billions, of separate items of information and make them readily available to a physician as an assist and as a support to him in making his diagnosis?

These are some of the profoundly important and challenging and fascinating questions that we will be facing today.

I welcome the three of you to our first panel, "Medical Technology's Contributions to Health Care." This very distinguished panel includes: Mr. Clyde Behney, Health Program Manager of the Office of Technology Assessment; Dr. Seymour Perry, deputy director, Institute for Health Policy Analysis, at the Georgetown University Medical Center; and Dr. Stanley J. Reiser, Griff T. Ross Professor of Humanities and Technology in Health Care, University of Texas at Houston.

We are delighted to have you. All of your prepared statement will be printed in full in the record.

What I suggest is that each of you speak for approximately 7 or 8 minutes, informally, hopefully, not reading your prepared statement, and just assume we're in the living room chatting about this very important subject in which you bring so much to the table.

So, with that for starters, let's start with Mr. Clyde Behney.

STATEMENT OF CLYDE BEHNEY, HEALTH PROGRAM MANAGER, OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS

Mr. BEHENY. Thank you, Mr. Chairman.

I am pleased to appear before you to discuss the positive and negative contributions or implications of medical technology. I would like to start by saying a few words about definitions.

DEFINING TECHNOLOGY

Technology, in OTA's definition, is: organized knowledge applied to a practical purpose. It is not actually OTA's definition, we stole it from John Kenneth Galbraith. It may sound rather fuzzy, a very conceptual definition, but it's important to start out that way because a critical feature of looking at medical technology is to understand it as more than physical implements. You do not want to go to the other extreme and mistake it for rationality as such, but it needs to be thought of as more than machines, more than physical manifestations of things. Think of it more as the tools of society; and in medical care it would be the tools of health care.

For day-to-day purposes, OTA uses an operational definition, which is: the drugs, devices, and medical and surgical procedures used in health care, and the organization and supportive systems within which such care is delivered.

This allows us to cover not only things such as CT scanners and computer applications and so forth; but also surgical procedures, medical procedures, such as bed rest for certain conditions, other medical techniques, and things that people don't ordinarily see as technology, such as the use of nurse practitioners to deliver specific types of care.

The reason that one might want a rather broad definition is that—to give a personal opinion—the emergence over the past decade of medical technology assessment as a field, which I think you have to put in quotes, has been because it gives us another handle on how to approach the guts of medical care. It is certainly not a traditional academic discipline. It brings together a great many skills and disciplines, but all with the idea of providing a new approach to analyzing what goes on in health care.

BENEFITS OF TECHNOLOGY

In terms of the effects of medical technology and health care, I think that the benefits are clear. Even though we could argue about the amount that we spend on health care, how much of it really goes toward the benefit, it is clear that in developed countries and, to a lesser extent, in developing countries, of course the health benefit provided by medical technology over the last several decades has been very significant. The patterns of death and disease have changed. We have made infectious diseases in developed countries either a rarity or an infrequent occurrence, especially the severe infectious diseases. Immunizations, antibiotics, certain surgical procedures, and so forth have all provided enormous medical benefit.

There is no argument that medical technology contributes to health care positively. In one sense, since the United States is a heavily technology-dependent system, of course, much of what health care is is technology.

TECHNOLOGY AND RISING COSTS

Now, when you turn to the cost side, again, since medical technology is much of health care, obviously much or most of the cost is attributable to medical technology. That is not very helpful, because it encompasses so much. So, what people really talk about very often is what is the contribution year to year or over time of technological applications to changes in—which means increases in—the costs spent on health care.

Through techniques that I do not need to go into, analysts have estimated that from, say, 20 percent, even to 50 percent, of the increase in the costs of health care over time can be attributed to one of three things: new medical technology, new uses of existing medical technology, and an increased use in traditional ways of using existing technologies. In this way, the technology factor has been estimated to be 20 to 50 percent.

A few years ago, OTA did its own analysis of that nature for hospitals costs and found that about 24 percent of the increase in per capita hospitals costs in the previous 5-year period were attributable to the technology factor, if you want to call it that.

So, it is clear that technology is a major driving force in the increases in health care costs. One would expect that. The only question is the relationship between the benefits and the costs.

TECHNOLOGY AND SOCIAL VALUES

A third area is the idea of social effects, or effects on social values. Even though that does not enter into that cost-benefit "equation," if you want to term it that, that many people think of, it is important to remember the often-profound or the sometimes-profound and the often-important challenges that medical technology provides to our beliefs or our ethical system.

TECHNOLOGY AND WASTE

Regarding the costs of health care that are attributable to medical technology and the enormous sums of money that are spent: people have, as you said, mentioned that we are probably paying a lot more than we have to for what we get. The figure that I guess Uwe Reinhardt mentioned was 20 percent. Others have said that probably 50 percent is spent unnecessarily, that it is wasted in one sense.

On the other hand, there are analysts who say that at least in the hospital area we have come close to the point where essential services may be cut.

I don't know which of those is right. I tend to side more with the "waste" side, simply because of evidence such as variations in the use of procedures with no difference in outcomes and so forth.

But an additional point I did not put in my prepared statement is that if we think we are spending a great deal now, what is going to happen in the next decade or two when we have better preventive technologies we want to use, when we have an enormous increase in disability- or impairment-related technologies that will come, now not so much from the traditional rehabilitation system but from the medical system itself?

There is an enormous pool of potential use with an enormous potential increase in costs for that, so that we are faced with high costs now and it will get much worse with important technologies that need to somehow be worked in.

I have hit a red light, so I will stop there. Thank you for inviting me, and I would be happy to answer any questions you might have.

[The prepared statement of Mr. Behney follows:]

PREPARED STATEMENT OF CLYDE BEHNEY

Medical Technology - Contributions to Health Care

I am Clyde Behney, Health Program Manager of the Office of Technology Assessment. I am pleased to appear before you today to discuss the positive and negative aspects of medical technology.

OTA is a nonpartisan analytical support agency of the Congress. The purpose of OTA and its Health Program is to help Congress understand and plan for the consequences of technology. The Health Program deals with clinical and other health care technologies and with health issues in broader terms, including environmental and occupational health. We conduct applied, policy-oriented research, focusing on synthesis of scientific and technological information and on development of analyses for Congress.

OTA defines *technology* very broadly as organized knowledge applied to practical purpose. This seems a highly conceptual, almost vague, definition to use, but it is nonetheless crucial to start with such a broad view. Only by doing so does one avoid the trap of thinking of technology only as machines or physical implements. A surgical procedure is a technological application. So, too, are systems of third party reimbursement or the use of nurse practitioners to deliver care.

For day-to-day purposes, a somewhat more restricted, operational definition of ***medical technology*** is needed. OTA's is "the drugs, devices, and medical and surgical procedures used in medical care, and the organizational and supportive systems within which such care is provided." Many people use the term "health technology", but I prefer to reserve that for times when one is speaking of a wider range of technologies, including general public health, nutrition, sanitation, and other health-related (but not "medical") technologies.

It is not my intention today to catalog and fully discuss the long and complex series of effects of medical technologies. Rather, I would like to simply list the major types of effects it has had and will increasingly have on health care and society, and then touch on several general issues.

The Effects of Medical Technology

It is not playing word games to say that of course medical technology has made enormous positive contributions to health care; after all the use of medical technology *is* much or most of such care. A central question is what have the benefits been in relation to risks and to economic and social costs, and in relation to alternative ways of accomplishing the same goals. That is, how closely has use of medical technology approached "appropriate use"? Which raises the question of whether we know what appropriate use should be in many cases.

A society's technology inevitably changes that society, and a health care system's technology will change, sometime determine, that system. Ours is a heavily technology-dependent system. It is more effective clinically than ever, and becoming more so every year. It is also more expensive than ever, and also has more value-laden controversy than ever.

The *benefits* of medical technology are clear. Vaccines and antibiotics have made many previous leading causes of death, particularly infectious diseases, now rarities in developed countries. Combined with other health-related technologies, such as sanitation and nutrition techniques, medical technology has helped to change the patterns of death and morbidity (illness) over the past decades. Infant mortality, despite remaining a concern, continues to decrease. Life expectancy has increased significantly in the past decades. More is being learned about technologies (and lifestyle elements) to prevent chronic conditions, such as cardiovascular disease. Although the successes are far less for chronic diseases (heart, cancers, arthritis, etc.), medical technologies are applied widely in efforts to ameliorate the effects of such conditions

In the disability area, great advances have been made in communication technologies, mobility aids, and an assortment of technologies that support independent living. We may be on the verge of additional, and dramatic, breakthroughs in this area.

At the same time, the contribution of medical technology to the expanding *costs of health care* is, to understate, large. In one sense of course, since much of what is done in health care today involves medical technology, technology is responsible for most of the cost of such care. But this is a relatively meaningless approach. What is really needed is a sense of the contribution of the use of medical technology to changes, increases, in the costs of health care. Analysts' estimates of the contribution of "changes in service intensity"[1] to increases in hospital costs have ranged from 20 percent to 50 percent. In 1984, OTA estimated that increases in service intensity accounted for 24 percent of the increases in per capita hospital costs over the most recent 5-year period. We can make a rough assumption that costs for other sectors have also been affected significantly by medical technology.

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[1] In the very imperfect world of estimating the contribution of medical technology to hospital cost increases, the concept of service intensity, or the quantity of resource inputs per hospital admission, is as close as one usually gets to a "technology factor."

Although these estimates are very imprecise, it is clear that a substantial portion (perhaps a quarter or more) of the dramatic increases in health care costs over the past two decades is the result of either new technologies, new applications of existing technologies, or increased use of existing technologies in traditional ways.

Thus, the United States spends a great many of its health care dollars on the use of technology. In all likelihood, some portion of this amount produces great benefit, some produces modest benefit, and some may produce no or even a negative benefit. The problem, of course, lies in our lack of knowledge about which portion does which.

The effects of medical technology on the *quality of life* are a bit mixed. For those individuals who do not contract a disease because they have been immunized, or who recover from an automobile accident because of emergency medical services or from severe burns by use of high technology burn units, or who successfully have kidney stones removed with lithotripsy, or who are other examples of the tremendous potential of medical technology, the enhanced quality of life is obvious. Those who have conditions, especially chronic diseases, where technology is used to ameliorate symptoms or compensate for a disease that the technology can not cure, often have different opinions of the effects on their quality of life. High technology medicine is sometimes a harsh world, where quality of life may at times appear to take a back seat to aggressive management of the patient.

Medical technology also has a mixture of positive, negative, and, perhaps, uncharacterizable, effects on social values. Advances in technology call into question definitions of death, birth, life itself, reproduction, and so forth. Technology can challenge basic beliefs and force explicit debate about those beliefs (as with surrogate motherhood or use of fetal tissue in therapy).

In considering economic effects, the direct costs of health care are not the only element. Health care is also a major U.S. industry, with about 14 million people in 1984 in health-related jobs. It accounts for more than 11 percent of the U.S. gross national product. Exports of medical devices and pharmaceuticals are also greater than imports of those items, making medical technology one of the items with a positive trade balance.

Issues relating to Medical Technology

A critical background point is that discussing the positive and negative consequences of medical technology is not a simple matter of covering one side and then the other of a balance sheet. Generally speaking, the use or application of a technology almost always has effects that can only be characterized as a combination of positives and negatives. And characterization of those effects is in itself variable, often depending on the values of the evaluator. One need only think of the controversies surrounding new reproductive technologies to highlight the importance of perspective and values in judging the sign, positive or negative, of specific medical technologies' effects.

Underlying much of the debate about medical technology and its effects is the **dilemma of levels**. The effects of a medical technology can be viewed from various perspectives or levels. At base, the level or system is the individual one of a specific technology's medical benefits, risks and direct costs. This system's view requires only the technology, the patients, and direct providers of care. But viewing the effects of technology from this narrow system ignores a great many of the broader issues. As one views the effects of technology from the perspective of increasingly broad systems, one begins to take into account effects of the delivery system and effects on that delivery system. And similarly for the payment system, broader questions of ethics and access, and so forth. At very broad levels, one begins to see medical technology as part of a system with health effects, costs, employment aspects, international competitiveness aspects, and so forth. The dilemma is that as one approaches analysis from broader and broader viewpoints, one gains a greater ability to take into account a fuller range of positives and negatives but one is also in danger of losing sight of the specific purpose of medical technology -- to make lives longer and healthier.

This is why in one sense many health services researchers and health policy analysts are really in the business of saying "but," of introducing "extraneous" considerations. They may be very important, even crucial, considerations. They are nonetheless external to the basic delivery of medical care. An example of the idea of saying "but" is the attention being paid to cost containment. The goal is not, of course, to harm care for any individual, but the actual goals attempt to balance any effects on patient care with considerations of costs, of stretching resources, and of equitable access.

There are also times when the dilemma disappears, and a broader view raises the analysis to a higher level that is more responsive to the basic goal of improving health. Analysis of variations (e.g., geographic) in the use of surgical procedures, for example, demonstrates a wide range in the rates of many procedures, unexplained by differences in populations served and often with no attendant difference in outcomes.

Some analysts believe that a large portion of health care is unnecessary, that enormous sums of money are paid for unnecessary or minimally effective treatments. Dorothy Rice, former director of the National Center for Health Statistics, feels that as much as 50 percent of health resources may be spent unnecessarily. Others feel that there is far less unnecessary care and that the system is nearing the point where essential services may be in danger.

I don't know which of these beliefs is correct. I do know that there is enough information missing that the question becomes impossible to answer with certainty. We lack basic information on efficacy and safety for many medical technologies; cost-effectiveness information is scant and much that does exist is not of the highest caliber. The implications of variations in rates of procedures need more attention. We lack good ideas on how to implement technologies we believe to be valuable (e.g., prevention and education programs have great potential in many areas, but moving them to practitioners' agendas and knowing the best methods to use are weak areas).

This is more than the expected plea for more funds for health services research. It is a plea for recognition of the gaps in our knowledge base. It is a given that many aspects of health care are now being adjusted in an attempt to balance quality of care, costs, access, and technological innovation. Recognition of our lack of knowledge in many of the areas being adjusted is absolutely essential, so that any steps taken will be done with an evaluation scheme built in from the start. And it does imply that any plan to increase the knowledge base in the area of medical technology could profitably start with increases in funds for clinical trials in order to enhance our knowledge of efficacy and safety, to give us greater understanding of appropriate indications for use of technologies.

Also, there is a need to develop information that could help consumers, the public and other decision makers, participate in decisions affecting their health care. This will require agreement on indicators that measure desirable outcomes of care, the collection of large amounts of data on those indicators, and the skillful and clear dissemination of such information to consumers and others.

Discussions of medical technology could cover dozens of other issues; such as how to identify the proper balance of regulation and competitiveness; how to constrain costs while maintaining an innovative and thriving pharmaceutical and devices industries; how to deal with the increasing number of ethical issues raised by advances in technology; technical issues of how to identify the most efficient and effective payment systems for hospitals, physicians, and other providers; how to deal with the malpractice question; how to anticipate or effect changes in the site of delivery of technologies (home care, e.g.); and international issues (such as balance of trade, our relatively low expenditures on tropical medicine, international exchange of information from clinical trials and other research, and what our responsibilities are in relation to the health status problems exacerbated by the growing economic crises in many developing countries). As mentioned, it is not my intention to cover these other areas, but any group seeking to understand and perhaps modify the effects of technology should consider the full range of such issues.

Generically, however, the key question and challenge is one of how to identify confidently and enhance the positive aspects of the use of medical technology while reducing the negative aspects to a reasonable level. This will require a delicate balancing of the competing demands for greater access to technologies, lower costs, and higher and more consistent quality; all this while making decisions from a base of lesser or greater ignorance in many areas.

This concludes my formal statement. Again, I thank you for the opportunity to speak on this topic, and I would be happy to answer any questions you might have.

Representative **Scheuer**. Thank you very much, Mr. Behney.

Now, Dr. Seymour Perry, deputy director, Institute for Health Policy Analysis, at the Georgetown University Medical Center. Please proceed, Dr. Perry, for about 7 or 8 minutes and chatting with us as informally as you can.

STATEMENT OF SEYMOUR PERRY, M.D., DEPUTY DIRECTOR, INSTITUTE FOR HEALTH POLICY ANALYSIS, GEORGETOWN UNIVERSITY MEDICAL CENTER

Dr. **Perry**. Thank you, Mr. Chairman.

Representative **Scheuer**. Don't hesitate to refer—and this goes also for you, Dr. Reiser—to anything you have heard here either from other witnesses or from this side of the table.

Dr. **Perry**. I am very pleased to be here and have the opportunity to make a few comments about medical technology.

TECHNOLOGY IN SOCIETY

I think that most people agree that over the last four or five decades we have been witness to greater advances in medical knowledge and medical innovation than perhaps the last 250 decades, since the time of Hippocrates.

However, the innovations have brought with them not only great benefits, but also they have raised extraordinarily complex, difficult, and unprecendented questions and issues concerning safety, efficacy, costs, and ethics.

In this country we have ambivalence, whereas on the one hand we have had this increasing and continuing concern for a long time about health care costs, nevertheless when one of us gets sick we are anxious to have the latest and the most sophisticated and the best technology. How we resolve that issue is impossible to say at this moment.

Representative **Scheuer**. In other words, the economies should be affected with the other guy.

Dr. **Perry**. That's right.

While health improvements have come about for many reasons—economic, improved economic conditions, housing, nutrition, and so on, but technology seems to enjoy a special visibility and prominence in the minds of the public and in the minds of policymakers.

Certainly, there are many technologies that have brought enormous benefits at reduced costs, both economic and otherwise. Vaccines for polio, many antibiotics for the infectious diseases, drugs such as cimetidine for peptic ulcer, and certain surgical procedures.

On the other hand, there are also technologies which are in some cases clearly beneficial, in others marginal, but which have increased costs; for example, questionable benefits in the treatment of lung cancer and certain other malignancies, but certainly increased costs for the treatment of coronary artery disease, organ transplants, and others.

Then, the diagnostic tests and imaging procedures as a group provide for earlier and more precise diagnosis, but in most cases at increased costs.

In essence, in some cases technology has reduced mortality and reduced morbidity and improved the quality of life, but in others it has decreased mortality and possibly improved quality of life but has also increased costs.

Now, as far as the future is concerned, there is every reason to think that there is even greater promise. I could cite many examples. But just in the last year or two there has been a new generation of cardiac pacemakers which are potentially applicable to hundreds of thousands of patients who as a terminal event may have a life-ending abnormal rhythm of the heart. These pacemakers are expensive and have wide application.

Just the other day, a new heart pump was announced which is small enough, one-quarter by one-half inch, that it can go through a blood vessel into the heart to assist the heart's pumping.

One other area that needs to be mentioned is the neurosciences, where there is great optimism at improved treatment of Parkinsonism and Alzheimer's.

In another area, cochlear implants, which will enable—should enable—some people with hearing loss to hear reasonably well.

BENEFITS AND COSTS

Now, have the advances and potential advances, and the associated vast financial expenditures brought commensurate benefits in life expectancy and quality of life? The picture is mixed. Life expectancy has been lengthened. Infant mortality has been improved. But yet, we are No. 19 among the nations of the world in infant mortality.

As I have mentioned, we have seen enormous improvements in the management of infectious disease and heart disease and stroke, some cases of cancer, and the restoration of disease to traumatized joints. On the other hand, there has been little or no progress in many of the chronic diseases.

Now, on the negative side of technology, certainly the area that receives the greatest attention is that of increased expenditures. There are many factors contributing to increased expenditures: labor costs, administrative costs, malpractice, and the practice of defensive medicine, and certainly the inappropriate use of technology as alluded to by Mr. Behney.

But I think that at the outset we must recognize that modern health care is very expensive, even under the best of circumstances. Fifty years ago health care delivery was inexpensive. The reason was that there was nothing much that the health care provider could deliver beyond being able to do an x ray and an electrocardiograph and use a few drugs, many of dubious value. There was nothing that the physician could do beyond that.

OVERUTILIZATION

Overutilization, in my view, contributes a great deal to increased costs, and one could cite a great deal of evidence to support that assertion. But I just want to mention two, one being a report in the New England Journal of Medicine this year of a study which appeared to indicate that at least 20 percent of cardiac pacemakers may have been unwarranted and implanted unnecessarily.

Another figure: 17 percent of upper GI endoscopy may be unnecessary.

Unnecessary tests and procedures lead to more tests and more procedures, and sometimes the patient is put at risk as a consequence—and unnecessarily.

Inappropriate use is a very serious problem. It is an umbrella term covering instances where technologies are applied in ignorance or when they are of marginal benefit or they are used in the absence of any evidence one way or the other, and they may be applied for economic gain.

As I mentioned, there are all sorts of ethical and moral issues that have been raised by technology, issues of access and equity, distributive justice, involving the poor or disadvantaged no matter where you set the level for "minimal care."

So, the dilemma here is: How do we accommodate expensive new technologies in a rational way at the same time when we are trying to control costs? Unfortunately, it is difficult to even begin because 80 to 90 percent of technologies have never been evaluated.

TECHNOLOGY ASSESSMENT

The Congress, in an attempt to address this issue, established the National Center for Health Care Technology in 1978, but when the current administration came into power that agency was abolished.

So, we are now in a situation where there is no agency, either on the public side or in the private sector, which has the responsibility to provide evaluations of technology. This is a disservice to consumers, providers, the medical industry, the third-party payers, and policymakers.

Just one final comment, since the red light is on.

I should say that it is inappropriate to call our health care delivery system a "system." We have a "dyssystem," as in "dysfunction." It is a mishmash of delivery and reimbursement and coverage mechanisms, and this is a setting where inefficiency and waste, certainly in the use of technologies, are fostered.

Thank you, Mr. Chairman.

[The prepared statement of Dr. Perry follows:]

PREPARED STATEMENT OF SEYMOUR PERRY, M.D.

MEDICAL TECHNOLOGY IN A COST CONTAINMENT ENVIRONMENT

Since World War II, there has been an enormous increase in medical knowledge accompanied by remarkable technologic innovations. I believe it is accurate to say that in the last five decades, there have been greater advances than in the previous 250 decades since Hippocrates. However, the innovations have also brought with them enormous and unprecedented problems - issues of safety and efficacy, cost and cost effectiveness, access and ethics.

As a nation and as individuals, we have a great deal of ambivalence about medical technology, the devices, drugs and associated medical procedures by which medical care is provided. On the one hand, there is a serious concern about the continuing rise in health care costs and on the other, when one of us gets sick, we as Americans are anxious to have the best and the newest medical technology regardless of the cost. The faith that both patients and physicians put in medical technology is based, in part, on the notable advances of the 1940's and 1950's. Those historic successes have tended to reinforce the assumption that what is new is better.[1]

Improvements in health come about because of many factors: economic conditions, housing, nutrition, working conditions, improved knowledge of health and disease, wider availability of health care, public health programs, etc. While the application of medical technology is only one of the factors contributing to well-being, it enjoys a special visibility and prominence in the present circumstance of rising health care costs. In many instances, technologies have brought enormous benefits and have reduced costs to the system: preventive vaccines for polio and other diseases, antibiotics for infectious diseases, therapeutic drugs such as cimetidine for peptic ulcer, surgical procedures such as those to correct malformations of the heart, etc. In other situations, technologies have increased costs with varying benefits: lung cancer, acute leukemia and certain other malignancies; coronary artery disease, etc. Diagnostic tests including both laboratory tests and imaging procedures allow for both earlier and more precise diagnosis, but they tend to be expensive.

In essence, in some cases, technology has reduced mortality, morbidity and health care costs, and improved the quality of life. In others, it has reduced mortality and possibly improved the quality of life, but it has also increased costs. Some have estimated that 20-40% of the annual increase in overall hospital costs can be attributed to the adoption of medical technology.[2]

Benefits of Medical Technology

I have been asked to describe at this hearing, the benefits as well as the adverse effects of new diagnostic technologies and new methods of treatment. In my view, it is not an exaggeration to say that as remarkable as the advances in medicine have been in the last few decades, there is every reason to think that the future holds even greater progress. In almost every area in medicine, there have been great advances in knowledge and the appearance of new beneficial technologies.

For example, in cardiovascular disease, our understanding of the process of atherosclerosis has been vastly increased. There is a new generation of pacemakers with potential application to hundreds of thousands of patients who may have as a terminal fatal event, an abnormal cardiac rhythm but with the new pacemakers a normal rhythm may be restored. Within the last few weeks, a new heart pump has been announced which is 1/4 inch wide and a 1/2 inch long and can be inserted through a blood vessel to assist a failing heart. Left ventricular assist devices used in patients with end stage heart disease are a life-sustaining device as they wait for a transplant. Finally, even though NIH has just decided to end funding for the development of the artificial heart, can anyone really take the position that such a device will not become practical in the not too distant future and that problems which plagued the first implants will not be solved? Similarly, there are many other areas of medicine where the innovations have been truly remarkable, as in restoring the function of damaged or diseased joints and in managing emotional disorders.

Diagnostic advances include new methods of pre-natal genetic tests for congenital defects and inherited diseases. Computer assisted imaging is revolutionizing image processing, analysis and archiving.

With the use of biotechnology, new vaccines, new drugs and new diagnostic techniques have been developed. While there is as yet no cure for AIDS, it is important to recognize that biomedical research provided the tools so that many of the unknowns of this disease were clarified and the causative agent identified within a short time. One needs only to recall the history of polio and the many years it took to understand that disease to appreciate how far and how quickly the science of medicine has come.

There are also startling advances in the neurosciences such as the innovative therapy for Parkinson's disease. Organ transplants that once made front page news are becoming commonplace standards of treatment for certain diseases. Medicine is continuing to advance; the technological imperative is proving stronger than the tide of resistance or criticism.

But have the advances in medicine and our vast expenditures brought commensurate improvements in health status, quality of life and life expectancy? The two most common health indicators, life expectancy and infant mortality, provide conflicting information. Statistically, the greatest improvements in life expectancy since the turn of the century have come in the area of public health: better sanitary conditions and improvements in infant mortality increased life expectancy from 47 to 74 years. We have also experienced a decline and virtual elimination of most of the acute infectious diseases that were prominent causes of death for the first half of the century.[3]

In the last 15 years, we have begun to experience some dramatic reversals in both the incidence and prevalence of chronic illnesses. For example, deaths from heart disease are declining as are cases of lung cancer, cirrhosis of the liver, and stomach cancer. But much of this improvement may be due to changes in lifestyle, e.g. diet and exercise.[4]

Conversely, infant mortality is no longer declining in the U.S. The U.S. now has an infant mortality rate of 11 per 1000, and is ranked 19th in the world; Finland, Sweden and Japan are tied at the top with a rate of 6 per 1000.[5] This, however, seems to be due, in part, to problems of access, i.e. women who cannot (or do not) receive adequate pre-natal care. It may also be due to lifestyle choice (drug and alcohol abuse by some pregnant women).

We may not have paid sufficient attention to prevention in the past but it is now receiving greater emphasis. It is a worthy objective and it can accomplish a great deal, but it is important to recognize that there are many serious medical problems where the underlying disease mechanisms are insufficiently understood at present to enable recommendations for preventive measures. This is the case with certain types of arthritis, most forms of cancer, heart disease, kidney disease, to name just a few. At the present time, these diseases are treated with what are essentially "half-way" technologies -- measures which are aimed at alleviating manifestations of diseases for which no definitive prevention, control or cure has yet been devised.[6]

Negative Aspects of Technology

While technologies have provided great benefits, they have also raised unprecedented problems and complex issues for the nation, for the health care provider community and for the individual. In the minds of many, the continuing rise in the cost of health care, without apparent commensurate benefit, is one of the most important problems facing the nation. They believe that since technology appears to contribute significantly to the rise in health care costs, it should be identified as a major culprit which must be controlled, and that the principal method of control should be by government regulation.

There are many factors which are responsible for the increase in expenditures: hospital labor costs, administrative costs, malpractice insurance premiums and awards and the practice of defensive medicine, professional fees, and certainly the overutilization of technologies, particularly diagnostic tests. However, at the outset, it is essential to recognize that modern health care is expensive under the best of circumstances. Health care delivery fifty years ago was far less expensive because there was little in the way of technology that the hospital or doctor could "deliver" -- there was the x-ray, the electrocardiograph and a few medicines, most of dubious value.

The overutilization of diagnostic tests and procedures, technologies with a low per unit cost but a high frequency of use, have contributed as much, if not more to the rise in health care costs that "big ticket" services like CT scanners or organ transplants.[7] One estimate claims that 20% of tests are unnecessary.[8] If that proportion is confirmed, it would constitute a large waste of the health care dollar because in 1987 alone, about $27 billion was spent just on laboratory tests[9], and more than $100 billion for all types of tests.[10]

Overutilization is a problem in other areas of technological advance as well. Just this year, a study reported in the New England Journal of Medicine found that approximately twenty percent of pacemaker implants in a group of thirty hospitals may have been unwarranted.[11] The numbers of hysterectomies and caesarian deliveries continue to rise despite a widely held opinion that many are not warranted. There are other factors which enhance technology's impact on the rise in health care costs such as the bias of reimbursement by third-party payers towards technology in which they tend to support procedural medicine over cognitive expertise. There also was an estimate earlier in this decade that 25,000 of the 170,000 bypasses performed that year may not have been warranted.

On the other hand, the impact of new, so-called cost increasing technologies may be exaggerated. This issue was studied recently by the Prospective Payment Assessment Commission which on examining cost estimates for 1987, found that for 19 technologies most likely to effect cost increases for Medicare, the estimate of total costs for 1987 would be $127.7 million; and that for the six technologies most likely to decrease costs for Medicare in 1987, there would be a net savings totalling $113.2 million for an overall net cost increase of only $14.5 million of .02% of total Medicare benefit expenditures.[12]

A few years ago, we estimated that the total costs of high technology procedures and devices such as organ transplants, diagnostic imaging (hospital based), lithotripsy, coronary artery bypass surgery and the balloon coronary procedure came to about $19 billion, only about four percent of total health care expenditures.

While it is impossible to imagine the practice of medicine today without CT scanners, ultrasound, intensive care units and the many laboratory tests a physician can employ to make a diagnosis, the inappropriate use of such technologies constitutes a serious factor in raising the cost of health care. "Inappropriate use" is an umbrella term which can be used to define the possible mis-application of technology in a variety of circumstances, and at times, in situations where one might raise ethical questions. In my judgement, these circumstances include use of a technology in ignorance or for a marginal benefit to the patient, use of technology in the absence of evidence of its value or in spite of the fact that conclusive studies have not been done.

In addition to contributing to increasing health expenditures, technologies often are associated with major ethical and moral issues of access, equity and distributive justice, particularly in the current setting of financial constraints. The poor and disadvantaged may not have access to potentially beneficial and life saving technologies no matter what definition is used for "minimal level of care". There are the complicated and controversial questions about maintaining life in the dying at any age ranging from infants with severe neurological defects to the terminally ill elderly. Only this month, a national newsmagazine featured a cover story on intensive neonatal care in which it was pointed out that five years ago it was considered a miracle to save the life a two pound, premature infant and today, babies weighing one pound can be saved through the application of the latest advances in ultra-high technology medicine. The cost? More than $350,000 per baby for four months in neo-natal intensive care, and inestimable costs later for children that survive with handicaps.[13]

What is driving this technological imperative? Beyond patient demand, there are at least two influences: technological style of practice reinforced by third party payment systems, and training of young physicians in technologically intense medical centers.[14] I would add a third factor: hospital competition to attract expert staff and patients by acquiring the most sophisticated and newest technologies.

Hospitals adopt new technologies keeping in mind the relative advantages those technologies present for reaching predetermined goals. Teaching hospitals and hospitals with research programs adopt technologies very early; larger hospitals adopt new technologies before smaller hospitals with third party cost sharing serving to accelerate the rate of adoption. Decisions to adopt technologies are made by and for the physicians that practice at a given facility. Beyond financial considerations, prestige, collegial competition and a sincere commitment to improving patient care are the key factors in these decisions.[15]

Many new technologies, particularly new diagnostic devices and surgical procedures, have moved from research into the practice of medicine before their safety and effectiveness have been clearly defined. At the same time, as new technologies are introduced, many old, obsolete and ineffective technologies continue to persist for years.

Our health care system is technology driven and there is no reason to think that this is going to change. Hence, on the assumption that technology is generally beneficial, the question then becomes, "Should we or can we control the use of technology so that it is applied effectively, efficiently and appropriately?"

The dilemma we face is how to integrate in a rational and equitable manner expensive, beneficial medical technologies in a climate where there is so much concern over cost containment. Although there has been little research on the diffusion and application of new technologies outside the hospital setting, it is essential to recognize that while the highly publicized technologies such as the CT scanner and magnetic resonance imaging (MRI) are expensive, it is their inappropriate use as well as the ordering of innumerable, small relatively inexpensive tests and procedures in the aggregate, as mentioned previously, that have had the greater financial impacts by far.[16]

Whether inappropriate use of medical technologies occurs because of ignorance, the absence of data concerning safety and efficacy, or because of greed, the fact is that the vast majority of medical procedures now in use have never been subjected to carefully evaluation. In a 1978 report, the Office of Technology Assessment estimated that 80% to 90% of all medical procedures had not been adequately assessed.

In large part, in recognition of this problem, the Congress, in 1978, created the National Center for Health Care Technology to evaluate so-called high priority technologies.[17]

Unfortunately, it was abolished in 1981 leaving the nation without any agency in either the public or private sector to carry on the responsibility for assessing medical technologies for their safety, effectiveness, or costs, both in absolute terms and in comparison to competing technologies. While there are now many assessment activities in the U.S., they tend to be modest and ad hoc, and there is little or no coordination among them. Perhaps, most importantly, there is no agency which examines major technologies for their implications from a national perspective. This situation does a disservice to all the parties in health care: consumers, health care providers, the medical industry, third party payers, and policy makers.

Those who are concerned with the provision of and payment for health care in this country are faced, at least theoretically, with three categories of questions:

1) Questions of quality of health care -- safety and efficacy;
2) Questions of social policy, ethics and access;
3) Questions of economics - costs to the individual and to the nation.

What is troubling in all the current discussion about containing health care costs is the virtual absence of concern for quality and social policy and a near obsession with the economics of health care. Any number of schemes have been attempted in the last decade to control costs. Health planning efforts were recently abandoned at the federal level and nearly abandoned at the state level. HCFA instituted the prospective payment system (PPS) in 1983 in hopes of controlling the costs of the hospital portions of Medicare, but with relatively little success. In fact, health care expenditures have continued to increase as more procedures and test are done in outpatient facilities which escape PPS controls. Thus, while these free-standing centers have reduced hospital bed utilization, they have become an important factor in the increase in health care costs. Certainly, PPS has had some positive effects, e.g. it has forced hospitals to examine costs and to become more efficient in delivering health care; device manufacturers have focused more attention on cost effectiveness. Unfortunately, PPS has also had some adverse effects on quality of care and on access by disadvantaged groups. This can be illustrated by the fact that under PPS, there is no incentive for a hospital to use a technology in diagnosis or therapy which is more expensive than another technology even tough it is clearly superior. For example, MRI is generally recognized as more precise for the diagnosis of certain brain disorders than the CT scanner, yet a hospital would be reluctant to use it because the operating cost of MRI is two to three times higher than the CT scanner.

Finally, in this discussion of attempts to control costs, one should mention proposals for instituting rationing of health care services as the only means of controlling increases in health care expenditures. However, given the character of American society, its general concern with the welfare of the individual, its feeling that everyone has a right to high quality medical are, and the fact that it is probably the best informed public concerning the benefits of medical technology in the world, one would doubt that the rationing as an overt national policy is feasible or acceptable.

System Dysfunction

As has been mentioned previously, there are many factors that contribute to the high cost of health care. A major reason, in my view, lies in the fact that we don't have a health care system -- we have a "dis-system" as in disfuction (dysfunction). We have a conglomeration of health care delivery mechanisms ranging from private solo-practice physicians to HMOs to corporate hospital giants, where the use of procedures, however inappropriate, is rewarded while the traditional role of physicians, which we fondly remember as general practitioners with wonderful bedside manners, is penalized. Coverage for health care ranges from expensive total coverage by private third party payers through Medicare and Medicaid with the deficiencies in those two programs, to the absence of coverage for approximately 37 million people. In addition, we have the huge health care delivery systems for active military, for veterans and CHAMPUS for military dependents.

With a mishmash like this, why do we seem so surprised that health care costs continue to rise and that health care delivery in this country is so inefficient? There is no other country in the world with so much pluralism in health care delivery. Pluralism in many circumstances is good, but one has to wonder whether it is serving us well in health care. I don't know if Mr. Califano's estimate in the earlier hearing that $125 billion of our health care bill is wasted is accurate, but I do know that we have a setting in which inefficiency, waste, and overuse and inappropriate use of medical technology are fostered.

Conclusion

In conclusion, the following points can be made:

1) Health care delivery in this country is in part driven by medical technology.

2) Overall, medical technology has brought society great benefits and has contributed to increasing life expectancy and improving the quality of life. It has also given rise to a variety of difficult issues including large increases in health care expenditures, access, equity and moral dilemmas.

3) The majority of medical technologies have not been subjected to scientific evaluation.

4) The pluralism of our delivery and payment mechanisms foster inefficiency and waste in the use of technology.

Assuming the forgoing is accurate, what are some of the measures that can be adopted to provide for the more rational use of technology?

1) Introducing a more orderly process for health care delivery and financing, i.e. a national health policy and program.

2) Provide for careful evaluation of certain expensive and complex technologies as they enter into clinical practice, but before they are widely diffused. One such mechanism is interim third party payment in which reimbursement is offered to selected centers for studies of safety, effectiveness, and costs of a given technology and of patient outcomes.

3) Establish regional centers or "centers of excellence" for certain technologies such as organ transplants for which major resources and experience are needed. Currently such expensive resources are often duplicated unnecessarily.

4) Increase funding to support technology assessment. It is estimated that less than $50 million is now spent (between the public and private sectors) to evaluate medical technologies, about .01% of our national expenditures for health care.

5) Encourage a coordinated effort by major medical professional societies and third party payers to support technology assessment and to intensify the use of its results to guide physicians and provide reimbursement.

6) Explore the possibility of establishing an agency within the government or supporting one in the private sector which has the mandate to assess major medical technologies before they are widely adopted.

7) Encourage the teaching of the importance of technology assessment and rational medical decision-making in medical schools.

When one looks back at the early 1970's, the setting was just about the same as it is now: concern over rising health care costs and expensive major beneficial technologies diffusing rapidly and being applied widely in health care before their safety and effectiveness had been established. Then it was electronic fetal monitoring, coronary artery bypass surgery and the CT scanner; now it is another set of expensive technologies. Congressional hearings were also held then and some actions undertaken. Nearly twenty years later, it is obvious that the old problems are still with us and that much more needs to be done.

ENDNOTES

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Representative **Scheuer**. Thank you very much, Dr. Perry.

Dr. Stanley Reiser, please take your 7 or 8 minutes, and then we will have some questions.

STATEMENT OF STANLEY J. REISER, M.D., GRIFF T. ROSS PROFESSOR OF HUMANITIES AND TECHNOLOGY IN HEALTH CARE, UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER, HOUSTON

Dr. **Reiser**. Thank you, Mr. Chairman.

I would like to bring you back to the decade of the 1960's, which was a time which had a profound effect upon the modern health care system, from two very important perspectives.

BASIC DILEMMAS OF TECHNOLOGY USE

The first is the creation of what I like to call the technology of rescue. In the 1960's we began to develop these extraordinary machines, the artificial respirator, the artificial kidney. It was the vanguard of——

Representative **Scheuer**. What was the first one?

Dr. **Reiser**. Artificial respirator.

Representative **Scheuer**. Respirator. Thank you.

Dr. **Reiser**. And the artificial kidney.

This was the vanguard of the technology that permitted us to take patients who, before, would have died in the emergency room, and allow them to have time of life so that their function, using these machines, might be restored.

Now, as we began to experience these machines, we began to have an important series of ethical dilemmas. Questions began to arise whether or not the use of these machines was warranted in relationship to what they were doing.

In other words, the function of the mechanical ventilator was to allow the patient's body time to recover. But what if the body didn't recover and the machine was keeping the patient breathing. Was this an adequate use of this technology? Was it responsible to use it, in other words? Was it effective? Did it benefit the outcome in patients whose disease was not, in its underlying features, affected by this technology?

It has taken us a quarter of a century since 1960 to grapple with this question, and I believe we have finally come to grips with it ethically, and in many States legally, to show that even though a technology can do as much as keeping the patient's life going and breathing, if that life is going to be ended by a disease on which the machine has no effect, then the appropriate way to deal with that machine is to remove it so that the natural functions of the disease can inexorably take over as they will.

In other words, I think we can now show that is humane medicine, and what is effective medicine is also cost-saving medicine. But the grappling with the ethical and legal dimensions of how to proceed when machines will not affect basic outcome and how to develop effective policy for that has been an important step in trying to deal with technology.

So, one of the first ways in which the health care system was affected in the 1960's was the introduction of this new technology which not only created ethical dilemmas but also led to the general rise in the level of intensity of care and also in the number of people who had to apply this care. The cost rise is directly related to this new technologic event.

But the 1960's also introduced a second basic set of problems for us. In 1960, if you or I were to be treated in a doctor's office, the decisionmaking in the illness would essentially be one between the doctor, the patient, and the family. It was a relatively simple process of decisionmaking.

But we entered, in the 1960's, an era of pluralistic and public medicine, where we found that in order to manage the costs and the technology that we were introducing at this time, we required analytic expertness, managerial talent, and the involvement of institutions that went beyond the ordinary purview of medicine.

So, we began to see integrated into that era a group of other institutions whose values and whose policies inexorably would shape the doing of medicine: the insurance companies, the health care industry manufacturers, and government.

So, what we emerged with at the end of the 1960's was a pluralistic medical system with many interests each having different values and wanting different policies.

TECHNOLOGY ASSESSMENT

Now, it is against this background that I think we must consider the current dilemmas of how to use our technology. Most of the time when we hear discussions of technology the first question you hear is: "Does it work?" It's a physical question: What is the nature of the technology; what is its physical characteristics?

The problem is we have inadequate answers to the question does it work. And for some technologies we do not have answers. For some technologies we have answers but these answers are spread all over the medical literature. Imagine yourself a practitioner interested in a drug. Over the course of a year you might read 10 or 15 articles on that drug in different medical journals, each using a different methodology to talk about the same effect. How, after all of that reading and your own limited time, can you possibly get a synthetic view of whether that drug is good or bad? Extraordinarily difficult.

In addition to this, the various machines that we use are used in a manner that we are not sure is effective. For example, electronic fetal monitoring is used on an extraordinary number of births, but we are not clear under what circumstances that technology is appropriate. We are also not clear, having seen some of the signs that that machine produces, whether or not that should lead to the next step: ordinary normal delivery, or cesarean section.

So, we have an extraordinary array of questions about all these advanced technologies that we have inadequate answers to or the answers are scattered so badly throughout the literature that no one person can get a synthetic view of what's going on.

Now, in the past, as my colleagues here have said, we didn't worry about such problems because in the past we had few effective technologies to offer. It's important to recognize that penicillin, the first effective technology to be applied on a broad spectrum of illnesses of any sort, is less than 50 years old. Within the life span of a number of people here, that new innovation occurred.

We are historically young in relationship to our ability to understand all these problems. Therefore, it is not surprising that we are groping.

Representative SCHEUER. It is not surprising that we are what?

Dr. REISER. It is not surprising that we are groping.

Representative SCHEUER. Thank you.

Dr. REISER. We still have not had the time to come to grips with this. In other words, we are living with a prepenicillin system of evaluation in an era that has gone far beyond it.

Now, if it is difficult enough for a single doctor to try to locate in the medical literature the right answers to the problems he is confronting, it is even more difficult for a pluralistic system asking many different kinds of questions than purely physical, such as cost and distributive questions, to get these answers.

Moreover, any group of people all of whom would be interested in these questions, coming from different backgrounds would find the literature impenetrable.

We have another problem: In addition to having the people who——

Representative SCHEUER. Excuse me. Would you just define what you mean by "impenetrable"? Is it that they can't find what they want but it is there, or that the answers to the questions they have, have not been addressed yet?

Dr. REISER. Both.

Representative SCHEUER. Well, elaborate on that.

Dr. REISER. It is a jungle that is hard to sort through. Your answer may be somewhere behind a tree, but it's hard to find which tree and where it is.

Representative SCHEUER. And we do not have libraries out at the National Institutes of Health which doctors and researchers and hospitals can plug into, that have holding capacity and retrieval systems so that if you punch a couple of buttons and you ask what percentage of hysterectomies for the population take place here as against England, the computer wouldn't spit out that information?

Dr. REISER. What a computer will spit out—and my colleagues who will follow me will say more about this, I am sure—will be a whole long list of articles. And let's say you have the time—because you are a practitioner now, you have 30 patients out there—let's say you had enough time to sit down at 1 o'clock in the morning and read them. They would have different methodologies, they would have different points of view. How do you put it together?

So, the system is not geared for clinicians who have to use it and who have limited time to use it, to tell them what's going on. This is why we need standards.

Representative SCHEUER. To tell them what somebody else somewhere knows about the subject that they are perplexed about?

Dr. REISER. Not just somebody else, Congressman Scheuer, but the group, the group of researchers as they have looked at the problem have some common view.

We need synthetic statements of what this common view is, both to guide people in the use of appropriate technology and also to decide, when we have this common view, whether this isn't or is a good technology at all and if we should be using it.

It is for information synthesis that we need established consortia of organizations of institutions to provide policy guidance for the doctor practicing, for the health insurer who wants to know if he or she wants to pay for this technology, and for the Government. That is what we sorely lack.

It is an old system of old information geared to a new system of technology, and we have to make the evaluation part of it and the assessment part of it as efficient as some of the machines that we have invented. That is where our real gap lies. And if we do not do something to heal that gap, we will have the specter of a growing phalanx of technologies being too complicated for people who have to make decisions about them to use well.

[The prepared statement of Dr. Reiser follows:]

PREPARED STATEMENT OF STANLEY J. REISER, M.D.

Technologies in health care are authoritative entities. For patients, they epitomize one power of science providing data about unseen forces affecting the balance between health and illness, and interventions to right the wrongs of heredity and life. For health care providers, they form an armory against illness that confers power on the user to alter the course of pathologic forces, and also status from having the knowledge to do so. For society, they represent a mark of advancing civilization able to develop life-saving and pain reducing measures to those who need them.

For technology, as well as for the organization of health care in the United States, the decade of the 1960's was a landmark era. In that period, technologies of rescue were introduced into medicine. These technologies, symbolized and led by the artificial respirator and the artificial kidney, and aided by a new sophistication in diagnostic monitoring, made it possible for medical staff to rescue those in states of physiologic collapse from illness or injury. But while rescue from death became increasingly possible, the technology did not always restore patients to the functional lives they had led before the calamity. Some of them lingered in a twilight zone between death and physiologic existence. The difficulty of knowing how to make decisions about such patients was one of the events that led late in the 1960's to a wide and searching examination of the values underlying the practices of medicine, and to an exploration of the ethics of health care.

The growing capacity to intensify the care of patients, which used increasingly sophisticated technology and growing numbers of health professionals, led to a large expansion of health care facilities and to large increases in the costs associated with medical care in this decade.

At the same time this was occurring, a change was brewing in the way that practice was conducted. In 1960, the partnership among the patient, doctor, and family generated the basic decisions of health care. However, as the cost of care rose along with its benefits, and as the complexity and effects of care entailed managerial and analytic expertness that stretched beyond the capacity of medicine, medicine itself left the sphere of essentially professional and private arrangements, that had characterized it at the beginning of the 1960's, to enter as the decade ended the sphere of pluralistic and public engagement.

It is critical for all who are a part of health care in the United States to understand this evolution and to appreciate that health care is now a pluralistic institution with government an important but only one of many institutions, such as consumer organizations, insurers, manufacturers, unions, and so forth --- whose values and interests are now indelibly a part of the decision-making apparatus of the American health care system.

This new situation is significant in framing the issues we must engage in order to apply with greatest benefit, the health care technology of the present and future.

This technology is generally conceived of in its essential physical effects, epitomized in the question, "Does it work?" And this is a crucial question, about which we have inadequate knowledge. For many technologies we need more new knowledge but also better synthesis of what we already know about their reliability and the risks they present, about the benefits they confer and, critically, about the effect of these benefits on the outcome --- what in fact happens to the patient in the long run after being exposed to the technology. Examples abound. What are the appropriate indications for electronic fetal monitoring during labor and delivery? How does its use influence outcome? What about its effect on the rate of Caesarian section which has risen in use since the early 1970's from about 1 in 20 to about 1 in 5? Intensive care units -- How should patients be selected for being put into them and taken out of them? What is their effect on outcome?[1] And what about hysterectomy? It is the most common major operation in the United States. Yet continued debate occurs over its indications, along with the meaning of regional variation in its use.[2] Similar issues about the appropriate application of procedures arise concerning a wide range of common and routine ones from the use of laboratory tests and imaging technology to coronary artery by-pass surgery.

In the past, we did not worry excessively about such problems. We were, after all, emerging from a period reaching back to the beginning of recorded history, when medical intervention against life threatening and disabling disease produced little positive effect. We should recall that the first major drug to have a clearly beneficial effect in a wide spectrum of bacterial disorders, penicillin, was produced just at the close of the Second World War. However, our accelerated medical productivity since then has spawned a variety of agents and techniques, with wide spectrums of possible benefit (and also harm).

It has become increasingly difficulty for the practitioners reading a literature containing analyses of current therapies using a variety of study methodologies to get a synthetic view of where optimum therapy lies. Moreover, the public character of medicine calls for attention to the interests of social others for whom the cost and distributive aspects of medical choices ar important. This has made more difficult to accept the tendency of the past to add without systematic consideration new procedures to the ones that are already in place and familiar. The continuing growth of modern innovation requires a winnowing process to be put in place that determines not just what works, but what works best. Too often new technologies are introduced, which promise to replace older ones by giving, eg., more accurate data retrieved at less expense in discomfort and funds, only to have the older technology not fall into disuse but stay to supplement the new. Too often, to paraphrase that soldier's ballad, "Old technologies never die, they don't even fade away." The priorities of our pluralistic medicine can be set only by dialogue between its constituents, but to make good judgments they must have good evidence and in a form they all understand.

If this dialogue were only about defining a process that gives all parties an adequate view of the physical and distributive effects of each technology, that would be difficult enough. But more is involved. For the use of technology carries significant meaning to users -- it is a symbol of status, a measure of power, an agent of values. Through technology we accomplish goals that are essential to our lives. Its use, thus, is influenced not merely by its physical effects on an illness, but on our vision of who we are, and the mores of the social system in which it is embedded. Examples: The stethoscope hanging out of the pocket or jauntily draped like a tie around the neck of the medical student is a mark of becoming a doctor; magnetic resonance imaging technology, possibly the vanguard of a new era of diagnostic analysis, becomes for the imaging specialist the mark of his status and the path to institutional advance; the respirator, while "breathing" for the patient may be prolonging dying rather than offering hope, and can intimidate and immobilize staff and family from rational decision-making symbolizing for them a cardinal value -- life; and the barrage of diagnostic testing, often used not to learn needed therapeutic facts, but standing as a barrier to the assault on the doctor of the legal system. An effort to rationalize the use of technology thus must take account of and integrate into policy formulation the personal and social factors that guide its use, as well as its physical features and effects.

An institution or consortium of them is required in our country, which brings together information needed by the constituencies of our pluralistic medicine, to permit its constituents to jointly develop policies on the application of health care technology. These institutions should synthesize the literature and encourage research to:

a) elaborate institutional and provider capabilities needed to use given technologies beneficially,

b) elaborate the general physical effects of given technologies and the general medical circumstances under which their use is best warranted,

c) describe the constellation of social and cultural factors that are germane to a technology's use, including public desire or need for its benefits, economic consequences of its use, ethical considerations and legal factors that restrain or accelerate use and its psychologic and cultural meanings to providers and users,

d) suggest ways of influencing the social system and the delivery system to rationalize technologic applications.

We now are operating a modern system of health care in the United States with inadequate knowledge of the technology we use. Each year, we have increasingly massive budgets to support medical research ultimately aimed at creating future technologies, and to provide needed funds for patient care using present ones.

And each year a burgeoning traffic of new technology enters the health care highway, clogged already with models from years before, with both old and new technology riding on unexpiring licenses, guided by few signposts, and headed toward destinations poorly defined.

Knowledge of the physical and social determinants of technologies, of their effect on outcome, of what they cost and their relative value, and brought together in a synthetic form appropriate to create policy, is essential for decision-makers if the new pluralistic health care system of the United States is to come together and make our technology work.

REFERENCES

1) A fine book on these questions is: Bryan Jennett, High Technology Medicine: Benefits and Burdens, Oxford: Oxford University Press, 1986. See also, Stanley J. Reiser and Michael Anbar, eds., The Machine at the Bedside: Strategies for Using Technology in Patient Care, New York: Cambridge University Press, 1984.

2) See for data on this, as well as on other important aspects of these issues, Institute of Medicine, Assessing Medical Technologies, Washington, D.C., National Academy Press, 1985.

Representative **Scheuer**. Well, that is extremely interesting, and I appreciate your very thoughtful statement.

Could you give us a list of questions that you think ought to be addressed?

Dr. **Reiser**. Yes.

Representative **Scheuer**. You don't have to do it now.

Dr. **Reiser**. All right.

Representative **Scheuer**. Or why don't you take a crack at it now.

Dr. **Reiser**. Yes. Well, I will read it because I made a little list in my prepared statement. Shall I read it, or shall I just save it for later?

Representative **Scheuer**. Well, I read your statement.

Dr. **Reiser**. OK.

Representative **Scheuer**. I didn't find a list in the prepared statement. Was it there?

Dr. **Reiser**. Well, maybe I didn't make it clear enough. I think first of all you need organizations to go through the literature that will create these synthetic things, and the sort of questions they have to ask are about, first, outcome: it's not enough to say that after you have used a drug that the patient feels better the next day; that's not enough of an answer; next year, is the patient any different from when he got treated the year before? That is what we should know.

We need to know about what the true outcome of these uses are. They are not followed long enough for us to establish where they lead. They seem good shortly after, but what happens to the patient after the hysterectomy. So, you need outcomes studies.

PAST ASSESSMENT ACTIVITY

Representative **Scheuer**. Apparently, the National Center for Health Care Technology was abolished. But would it be that office that logically and properly would be developing this kind of information?

Dr. **Reiser**. That was the intention in the long run of what such an agency would do. It would both develop synthetic statements about where technology lies that we are currently using, anticipate where future technologies are going and try to develop research about them. It would both use the information already current, which is something that OTA does now also, but also try to get people to sponsor new research.

Representative **Scheuer**. Do you know the circumstances on which that office sort of disappeared into a big, black hole?

Dr. **Reiser**. I know it, but we have the former director here.

Representative **Scheuer**. I know we do. He has already presented his statement. Do you want to add anything?

Dr. **Reiser**. Yes. I think it was a variety of circumstances. I think that in 1978–80, when the National Center for Health Care Technology was there, we did not well understand the implications of the burgeoning technology on the ability of the system to function effectively; that is to say, the different people who have to make decisions coming together, looking at common evidence, and reaching judgments, from payors to practitioners.

Thus, the system frightened two groups:

First, it frightened physicians, who felt that the system, by evaluating technologies, would develop rigid standards which would make them practice medicine in a way that they did not believe they should. They were worried about their clinical freedom being abridged.

The second group of people who worried about it, I think, were manufacturers of instruments and technology who felt that the assessment process itelf might slow or delay or end the possibility of new technology getting to the marketplace.

I think, curiously and interestingly, in the 6 or 7 years since the Center's demise both groups have started assessment processes of their own and both groups have come around to seeing that assessment has important and valuable dimensions, because the public and the private sectors cannot afford all of the technology being proposed and that there must be some rational statement about what is good which can be very helpful for both parties.

But I think those were the two major threats and fears around which the Technology Center was developed.

The other was, I think, the general administration policy, particularly strong at the very beginning, to put in the private sector many functions.

Representative SCHEUER. Put to the private sector what?

Dr. REISER. To take away from government functions and put them in the private sector. I think that they felt that the private sector acting alone was capable of developing these notions.

Representative SCHEUER. That is the process known as "privatization."

Dr. REISER. Yes.

Representative SCHEUER. A horrible phrase. But it's clear what it means.

The Federal Government in this administration has been wanting to privatize the National Weather Service, and regularly every year or 18 months we have hearings and we bring in the agricultural groups, the citrus growers and the radio and television stations who distribute weather information, and the industries that need weather reports frequently, and they all express outrage, and so the idea is mothballed until the next year, when the administration predictably, inexorably, proposes the privatization of the National Weather Service.

Dr. Seymour Perry, you were sitting in the catbird seat administering the National Center for Health Care Technology. Can you tell us something about it, what its work was, what it seemed to be producing, what its hope was, and the story of its demise?

Dr. PERRY. Yes, I will.

Representative SCHEUER. Could you pull the mike closer.

Dr. PERRY. In the 1970's the Congress became increasingly concerned about some of the very same issues that we are addressing today. The technologies were different, but the issues were really identical: rising health care costs. And legislation was introduced in 1976 and again in 1977 to create some sort of a Federal agency that would have responsibility for engaging in comprehensive assessments or sponsoring assessments of major technologies.

When the legislation was finally passed in 1978, the new agency was designed not to be a regulatory agency, although it was perceived by some groups like the American Medical Association and the device manufacturers, to be such.

It was designed, rather, to assist third-party payers and others such as medicare, who decide whether to cover some technology or not.

Representative SCHEUER. To decide under what circumstances it made sense.

Dr. PERRY. Right.

Representative SCHEUER. That it would be cost effective and health enhancing.

Dr. PERRY. Now, it is important to emphasize, since you used the term "privatization," that the Center's philosophy, in an effort to anticipate some of the opposition to its activities, decided that it would look to the private sector to perform the evaluations and that its role—the Center's role—was to act as a catalyst and to ensure that bias was minimized.

Now, the opposition—and I would like to qualify one thing that Dr. Reiser said—in fact that the medical profession as a whole was supportive of the Center. Notably, the American College of Physicians, which is an organization, as you probably know, of 65,000 internists of this country, and most of the specialty societies were also in support of it.

The AMA was against it for the traditional reason that it was afraid that this activity would interfere in the private practice of medicine.

The manufacturers were afraid—and they testified to this effect—that it would be a constraint on innovation.

Representative SCHEUER. A constraint on what?

Dr. PERRY. On innovation, on the development of new technology.

I think their real concern, however, is not hard to discern, and that was that the Center's activities might act as a constraint on the marketplace.

Representative SCHEUER. And it would act as a constraint on the marketplace why?

Dr. PERRY. Because if a technology appeared with a marginal improvement, but at far greater cost, a company might find it difficult to make a case for its product if someone had done a careful evaluation of that particular technology.

Representative SCHEUER. And also, would it not mean that some of the new technology would not be used as intensively, but would be used more sparingly and selectively?

Dr. PERRY. It would be much more difficult to promote such technology.

Representative SCHEUER. Well, it might not be more difficult to promote, but I could see where a new technology would have a more restricted use due to some very clear thinking about when it was appropriate and when it was not appropriate. Therefore, while it might be helpful in a limited number of cases, it was not going to be as broadly used and, therefore, it would be susceptible to regional availability rather than having every hospital acquire a million-dollar CAT scanner, for example.

It seems to me that the idea of rational use of a technology which, admittedly, was useful and productive and appropriate in perhaps a limited number of cases, that the business of rationalizing the use of existing technology is also something that industry might have feared.

Dr. PERRY. I absolutely agree with you.

I must say, though, to the credit of the device manufacturers—under the influence, I think, of the prospective payment system—they have recognized that they have to be able to make a case for their technologies: to show that they are safe and effective and cost effective.

Representative SCHEUER. And appropriate in some cases.

Dr. PERRY. Right.

So, I think they have assumed much more responsibility than previously.

In any case, I think the situation in this country has returned to where we were before the Center was created. That is that we have no system for careful and routine evaluation of medical technologies.

Representative SCHEUER. Now, before you go ahead, tell us the occasion, the scenario of the Center's demise.

Dr. PERRY. Well, the Center had been in existence for about 3 years beginning in 1978, and with the advent of the new administration, it was a relatively simple matter, as Dr. Reiser has indicated, for the administration, I think under certain pressure, to fail or not to ask for continuation of the Center.

It was a small, relatively new agency, with a budget at its maximum of $4.1 million, so it was easily removed from the books.

Representative SCHEUER. All right. And you say "pressure" from some quarters.

Dr. PERRY. Yes.

Representative SCHEUER. Where did the pressure come from?

Dr. PERRY. Notably, from two areas: the American Medical Association testifying repeatedly against it; and the Health Industry Manufacturers Association.

But as I mentioned, HIMA has changed its stance and, in fact, supported more recent legislation to create, for example, the Council on Health Care Technology of the Institute of Medicine.

Representative SCHEUER. Well, now, let's analyze this. Why would the American Medical Association oppose an entity that would be scrutinizing and evaluating new health care technologies? What would be in the back of their minds?

Dr. PERRY. Well, as I mentioned, I think one explanation might be in its traditional stance that this interferes with the patient-doctor relationship.

Representative SCHEUER. In other words, they would feel that some institution, let's say, a government institution that was zeroing in on the circumstances in which a particular technology would be cost effective and appropriate and useful and health enhancing, and other circumstances where it probably was not an indicated appropriate treatment, that that knowledge would be harmful to doctors? Is that sort of the substance of their fears?

Now, I don't suppose either you or I could put words in the mouth of the American Medical Association, but it seems to me that knowledge for the sake of knowledge has been the basis of not only our society for the last 200 years but for modern industrial society all over the world. And going back before that, the Greeks believed in knowledge for the sake of knowledge.

Do we really have to come to the feeling that the American Medical Association was opposing an institute that would create knowledge, and that would evaluate when a particular technology might be appropriate and when it might not be appropriate?

Was the American Medical Association afraid of giving doctors this tool? Or was it afraid of giving Federal or State or city cost-control agencies this tool? What were they ultimately afraid of in the production, after all, of new knowledge that fine tuned our understanding of how medical technologies should be used? What was in the back of their minds?

Dr. PERRY. It's hard to say. Better men than I have tried to discern what was in the back of their minds but subsequent to this hearing and with permission of the chairman, I would be happy to provide additional written comments concerning the Center and its demise along with my perspective on current deficiencies in the Nation's technology assessment capacity.

But I think your speculation is probably on target. I should also add that since those years, the AMA has created its own evaluation program, and the results of these evaluations are published in the Journal of the American Medical Association.

But they are, I think it's fair to say, not terribly comprehensive. But I assume there is some value to practicing physicians although I do not think that those evaluations are a substitute for the evaluations done by the National Center for Health Care Technology.

[The following information was subsequently supplied for the record:]

1789

GEORGETOWN UNIVERSITY MEDICAL CENTER

Institute for Health Policy Analysis

June 8, 1988

Hon. James H. Scheuer, Chairman
Subcommittee on Education and Health
Joint Economic Committee
US House of Representatives
Washington, DC 20510

Dear Congressman Scheuer:

I want to thank you for the opportunity to testify before you recently (May 24, 1988). I also want to commend you and the Subcommittee on Education and Health for convening this series of hearings on health care in America. Certainly, health care is one of the most important problems facing the country and I am afraid we have not come to grips with it. We do a little patchwork here and there, when what is needed is a comprehensive approach.

Although my testimony focused on health care technology, I tried to make the point that we really do not have a health care "system" in this country. Instead, health care is delivered and paid for in many diverse ways thus providing a setting in which the inappropriate, wasteful use of health care technology is fostered. The rapid introduction of technologies has given physicians and other providers enormously powerful tools but at the same time, it has made the practice of medicine much more complex and demanding as far as decision-making is concerned.

Modern technology also has complicated greatly the life of hospital administrators in terms of choosing among technologies to purchase for the hospital. Many technologies represent major capital investments yet at the same time, their acquisition is essential if the hospital is to maintain a reputation for excellence and advancement.

Finally, technology has created complicated dilemmas for government policy-makers, particularly in surfacing problems related to cost and not infrequently, in access by disadvantaged groups. In order for all those concerned with health care to make decisions on a rational basis, they must have solid information about the safety, effectiveness, costs, and other issues raised by the technology in question both in absolute terms and in comparison with other competing technologies for the same condition. Such information can only be obtained through careful scrutiny or technology assessment.

Unfortunately, although there have been concerns about problems in this area for more than a decade, neither the government nor the private sector has rectified the deficiencies. I touched only briefly on this issue at the hearing but I would like to take this opportunity to provide you with a brief overview of the country's activities in technology assessment (TA) and identify those deficiencies.

During the hearing, you raised questions about the National Center for Health Care Technology, its accomplishments during its brief existence and the reasons for its demise. Its creation by Congress in 1978 was in recognition of the fact that while we commit enormous sums of money for biomedical research and technological innovation, we have no mechanism to evaluate the products of research. The Center's responsibilities included the evaluation of technologies particularly important from a national perspective, and from the standpoint of safety, effectiveness, and cost. It also was designated as the focal point in the public health sector for providing evaluations for the use of Medicare in making decisions about coverage. In all of these activities, the Center's operating philosophy was to look to the private sector for the assessments, with the Center's role being to provide the resources and to assure that bias was minimized.

The Center provided Medicare with approximately 75 such evaluations and recommendations for coverage or non-coverage, all of which were adopted with only minor alterations of an administrative nature. Approximately one-third of the recommendations were for non-coverage since the technologies were found to be either ineffective or unproven. To estimate the cost impact of some of the recommendations for non-coverage, studies by the University of California and Harvard schools of public health were commissioned. Seven of the recommendations were evaluated and the total estimated cost savings to Medicare from six of them was between $ 100 and $ 200 million a year. For the seventh (plasmapheresis for rheumatoid arthritis) the cost to Medicare could have reached $ 10 million annually if coverage had been authorized.

Why, then, did the Reagan administration decide not to request funds to maintain the Center--an office that had a budget of only $4.1 million at the maximum (about 1/10,000 that of Medicare), that was highly cost effective, that fulfilled a recognized need, and that used a process emphasizing the role of the private sector? At Congressional hearings on reauthorization of the Center, there were only two main groups in opposition: the American Medical Association (AMA) and the Health Industry Manufacturers Association (HIMA). The AMA spokesman expressed concern that the Center would interfere with the practice of medicine and took the position that relevant clinical policy analysis and judgments were better made within the medical profession. It should be noted that the vast majority of medical specialty societies were supportive.

HIMA was opposed because it was afraid that the Center would stifle innovation but the real reason, in my opinion, was that technology assessments might constrain the market place. It is interesting to note that in 1984, when Congress enacted legislation to broaden the mandate of the National Center for Health Services Research to include many of the activities of the Center, the AMA opposed the legislation as before, on the grounds that current assessment activities were sufficient. HIMA, however, supported the bill probably reflecting the environment engendered by the prospective payment system in which, to achieve acceptance, a technology needs to be shown to be not only safe and effective, but also cost-effective.

In 1984, when I testified before the Health Care Technology Select Committee on Aging, my message was that there was no mechanism or system in the United States to sponsor and support research pertinent to assessment of health care technologies as applied to the delivery of health care, or to link the stages that a technology traverses beginning with basic research and ending with application, diffusion, or discontinuation. In 1988, there is no reason to change my position.

Upon review of the field, there may appear to be a large number of clinicians, academicians, and researchers concerned with the evaluation of health care technology. The Institute of Medicine of the National Academy of Sciences has published a directory of organizations involved in technology assessment which lists more than 50 programs engaged in some form of evaluation in the United States. Particularly noteworthy are the programs of the American College of Physicians (Clinical Efficacy Assessment Project), American Medical Association (Diagnostic and Therapeutic Technology Assessment program), Office of Medical Applications of Research at the National Institues of Health (Consensus Development Conferences program), Congressional Office of Technology Assessment (Health and Life Sciences Division), and the Prospective Payment Assessment Commission.

The Office of Health Care Technology (OHTA) within the National Center for Health Services Research is charged with conducting assessments but its activities are limited to providing advice to the Health Care Financing Administration on coverage issues arising in Medicare.

In an attempt to fill the gap left by the demise of the National Center for Health Care Technology, the Congress in 1984 (P. L. 98-551) authorized NCHSR/HCTA to fund the Institute Of Medicine (IOM) of the National Academy of Sciences (NAS) to establish the Council on Health Care Technology (CHCT).

Although CHCT serves a useful role as a clearinghouse of information on TA, it appears unlikely that it will conduct original assessments. In my view, it will not because (1) it relies on contributors from the private sector, many of whom have vested interests in technologies and (2) the NAS/IOM is not set up to deal with regular, daily demands of a technology assessment program.

While these activities should be applauded and encouraged, I would like to stress that there are number of deficiencies in technology assessment from a national perspective:

1. The efforts in TA in this country are fragmented and there is little or no coordination. Most of the activities among those involved are modest, poorly funded, ad hoc, and with a few exceptions, limited to safety and efficacy. Cost and cost-effectiveness are not considered usually .

2. Each organization in the private sector engaged in technology assessment has its own agenda, understandably choosing topics to reflect the interests of its constituents. As mentioned, in the government, the priorities of NCHSR/HCTA are committed to the needs of Medicare and OTA's activities are set by the Congress. None of the groups, either in the public or private sectors, deliberately addresses the national implications of major new technologies--their potential benefits or hazards and their economic and resource costs for the nation.

3. There is no single organization that provides a repository for information on health care technologies or on the results of assessments on a timely basis.

4. Finally, while the United States spends a large amount on health research and development, comparatively little is spent on technology assessment. In 1984, the Department of Health and Human Services budgeted more than $ 10 billion for health R&D out of a total health budget of nearly $ 400 billion. If the budgets of the most prominent TA programs were added to related activities in industry (clinical trials not included), it appears that less than $ 50 million was spent for assessment studies in that same period.

I would like to reiterate the recommendations I presented to the Subcommittee for improving the research; the following measures could contribute greatly to strenghtening efforts in this area:

- Encourage a coordinated effort by major medical professional societies and third party payers to support TA and to intensify the use of the results to guide physicians and provide reimbursement.

- Explore the possibility of establishing an agency within the government or creating a quasi government agency with federal support which has the mandate to assess major health care technologies before they are widely adopted. There have been a number of estimates of the cost for such an agency but, in my opinion, $ 8 to 10 million dollars for the first year would be sufficient. In this sort of activity, my experience in the government suggests that it is better to start "small" but that amount would support four or five assessment workshops to establish criteria for the appropriate use of specific technologies and to support research needed to answer questions of immediate relevance to the delivery of health care.

- Encourage the teaching of the importance of TA and rational health care decision making in medical schools, nursing schools, and schools of public health. Programs concerned with health economics, health administration, medical sociology, health law, and health policy also need to educate their students in the methods and uses of TA.

- Increase funding to support TA research. The $ 50 million cited for TA research comprises approximately .01 per cent of the national health care budget. A program is needed that will support original research, demonstrations, and evaluations of technologies as well as research on assessment methods, the nature and diffusion of technology, and the transfer of information about technologies to practicing caregivers. Health care technology has become so complex that the vast majority of caregivers need information for guidance about their appropriate use.

Again, my congratulations for conducting these hearings. I hope they lead to some fruitful developments including enhancing the quality of health care our citizens receive. If I can be of any other assistance in your efforts or if you would like to discuss any of the issues mentioned above, please let me know.

Incidentally, and on a personal note, I am delighted to learn that you are considering joining our Board of Advisors.

Sincerely,

Seymour Perry

Seymour Perry, MD, FACP
Deputy Director
Professor of Medicine and of
Community and Family Medicine

PRIVATE VERSUS PUBLIC ASSESSMENT

Representative **Scheuer**. Let me ask you, if you had a group that was controlled by the private medical profession, say by the AMA or elsewhere, that was just as well funded and had just as good scientific talent, do you think that in terms of the usefulness of the product that they would turn out it would make any difference whether this group was privately funded or controlled or publicly funded and controlled by an agency, let's say, of the Federal Government?

Dr. **Perry**. It is interesting that you mention this, because there are several medical professional societies now who have either established mechanisms to do what you are saying or are in the course of doing so.

Representative **Scheuer**. You see, the reason I ask is that I have no bias against private medicine and the medical community qua community, and if I thought they would do just as good a job if they funded it or even the Federal Government funded the process under their control and direction, if they could do just as good a job in evaluating under what circumstances a particular health technology is appropriate and useful as would the Federal Government, I would say, fine, let the AMA do it.

Who cares who does it as long as that information is available to doctors and hospitals and the cost-control institutions in our society who are going to have to have an increasingly important impact on medical decisions.

Would it make a difference whether this material were produced under the auspices of the private medical community or by the Federal Government?

Dr. **Perry**. I agree.

Representative **Scheuer**. I am not concluding anything. I am asking the question.

Dr. **Perry**. No, I agree with you. I think if they were well done—that is, if the evaluations were well done, under the aegis of the medical profession, that would serve an extraordinarily important purpose, and I think it might do just as well as a Federal agency for example, providing that there was one principle that was followed———

Representative **Scheuer**. Well there may be more than one. Give us all the caveats you can think of.

Dr. **Perry**. Well, one would be that bias was minimized. In other words, these activities could not be perceived or actually be self-serving. The specialty societies, for example, have a real problem with this because by definition they consist of people who are utilizing the particular technology under evaluation; that is, they have a vested interest.

So, if bias could be minimized—and I think, as an example, the American College of Physicians has been able to do this in that they have brought in people from outside the society who have no vested interest in that particular technology, but are knowledgeable about the technology and the patient outcome.

Representative **Scheuer**. Do they apply experience abroad, from around the world?

Dr. **Perry**. Yes. They look at the world's literature.

Representative SCHEUER. Yes.

Dr. PERRY. They do a very comprehensive job.

So, I think that particular specialty society has shown that it is possible to engage in unbiased technology assessments. However, the activity is not well funded. The funds come out of the operating budget of the college. I think other societies can do just as well.

Representative SCHEUER. Well, in other words, are we advocating the reestablishment of the agency that you headed, that seemed to be very promising and doing very productive work, or shall we think about funding comprehensive studies of this kind in the private sector, or perhaps it could be a joint government-private council with representatives of your society of physicians and the AMA and other elements in the medical profession who have a legitimate concern, and government?

Would the anxiety of the AMA that somebody was treading on their turf and was about to restrict decisionmaking, the free flow of decisionmaking by doctors, would that anxiety perhaps be assuaged if they were included in a joint government-private sector initiative?

Dr. PERRY. Obviously, I cannot speak for the AMA. But I would think that it would help assuage their anxiety.

I think there is another issue that I should mention, and that is, you know, we're talking about synthesizing the data, the available information and data, about technology under evaluation. But the problem is that there is not enough funding, and I do not mean to plead just like a lot of other people who come before congressional committees plead, there is not enough money to support research related to technology assessment.

So I think that any entity that is established would have to have sufficient funds to support that kind of research. Now, we are not talking about creating another NIH, but there has to be money provided to support health services research and technology assessment.

It is incredible to me that while this nation has long had an enormous commitment to biomedical research and we have an enormously energetic and innovative medical device industry and drug industry but we commit so few resources to evaluate the products of our commitment.

Representative SCHEUER. Medical arts?

Dr. PERRY. Medical device and drug industry.

Representative SCHEUER. Device.

Dr. PERRY. Yet, we provide so little money to do the evaluations, to evaluate the products of this enormous enterprise. Yet, we are having a hearing here just in that area; that is, the evaluation of medical technologies and their rational use.

Representative SCHEUER. Do either of you, Mr. Behney, or Dr. Reiser, care to elaborate on this question we are just discussing, whether it's important to adduce this kind of information on the appropriateness and utility and cost effectiveness of medical technology, and if it is appropriate, how do we assuage the fears of a very influential and credible health care institution, the American Medical Association, that apparently was able to write finis for the agency directed by you, Dr. Perry?

Is it important, and if it is, how should we do it, and perhaps is there a way that we could think about including the medical profession in on the research and on the evaluations so they feel they have a certain handle on events?

Mr. **Behney**. The broad answer is yes, it's critically important that we have this sort of effort and that it be expanded.

I disagree slightly with Dr. Perry. I don't think a private-sector organization made up primarily of, or supported primarily by, the practitioners—medical societies and so forth—although it would be very important for them to continue doing it themselves and even expand what they're doing—that would take the place of the National Center for Health Care Technology.

Representative **Scheuer**. Do you think this is a government function?

Mr. **Behney**. I think it is an independent function, and government is the only way I know to assure that, and not just government. You couldn't put it at NIH. Back when NCHCT, the National Center for Health Care Technology, was being talked about, there was some talk about putting it at NIH. Many people argued against that because that is putting it where the developers of the technology are.

Representative **Scheuer**. So, they would be judge, jury, and executioner?

Mr. **Behney**. I think they would have too many aspects of the process.

Representative **Scheuer**. You do not think it could be a department or a division or a section of NIH that would just do analysis of appropriateness, need, health-enhancing capability, what are the circumstances where it is indicated, what are the circumstances where it is not indicated? Do you think they could be churning out that kind of knowledge and analysis somewhere under the umbrella? Could there not be a little organization performing that function somewhere under the umbrella of the NIH?

Mr. **Behney**. There probably could be. I mean, they do have the Office of Medical Applications of Research, which Dr. Perry also headed. But again, that Office and that function at NIH I still do not think would take the place of the broad responsibilities, including costs and comprehensive assessment, that the National Center for Health Care Technology had.

If there were no alternatives, I would rather have it at NIH.

Representative **Scheuer**. Excuse me. Where was that organization of Dr. Perry's located in the organizational chart of the Federal Government?

Mr. **Behney**. I could be corrected, but I think it was under the office of the Assistant Secretary for Health, and it was a sort of independent agency equivalent to the National Center for Health Statistics and the National Center for Health Services Research under a Deputy Assistant Secretary for Health for those three agencies.

So, it had the advantage of being separate from the developers, separate from the Health Care Financing Administration, the payers, and separate really from any of the—at that time—six operating components of the Public Health Service and separate from the users, the private sector and the profit-oriented sector of society.

I think that that independence is critical and the perception of independence is critical, plus I have a hard time thinking of the professional societies getting deeply into the cost side or the social implications side and doing their analyses from the societal perspective as opposed to programmatic or a more narrow perspective.

OBSTACLES AND INCENTIVES TO BETTER ASSESSMENT

Representative **Scheuer**. Let me ask you this. Is the question of fee-for-service basis a critical element here in why the organized doctors of America might feel threatened by this, that perhaps their ability to use a technology as a fee-generating device might be circumscribed to some extent? Could this be a factor in the case?

Mr. **Behney**. I won't pretend to be an expert in that area, but I think it inevitably has to be.

Representative **Scheuer**. Is it an inevitable, inexorable, built-in bias?

Mr. **Behney**. I think so.

Representative **Scheuer**. Is this bias in the health care system inescapable and unavoidable and uncontrollable under a fee-for-service modality?

Mr. **Behney**. I think it is in the incentives. The incentives are built in, and you cannot take them out, although you can minimize them.

Representative **Scheuer**. Let me ask this next question. How about HMO's? Would they welcome such a flow of knowledge to them about when a new health technology would be appropriate for a particular patient, under what circumstances, when to use it, when not to use it? Would they consider that would help them fine tune their decisionmaking, because after all they're working on a capitation basis, they're not getting fee for service?

They are getting an annual stipend for patients, and they want to do everything they can for their patients, obviously, and they want to have all the high technology available. But it seems to me they would want to use it judiciously and sparingly and not overuse it where it was not going to produce an enhanced health outcome.

Mr. **Behney**. I think that is absolutely correct.

Representative **Scheuer**. Does the logic not tell us that HMO's would welcome and benefit from this flow of information?

Mr. **Behney**. They have a mixture of incentives. I mean, they also have to compete and be glamorous and have the newest technologies and so forth. But the basic economic incentives built into HMO's favor the use of such information and the desire to have such information much more than fee for service.

The problem is that much of the information to be synthesized or that would be synthesized does not exist.

Dr. **Perry**. Mr. Chairman.

Representative **Scheuer**. Yes.

Dr. **Perry**. I want to make sure my comments are not misunderstood. The question you asked was whether the medical profession could do a reasonable job if it had a mechanism to provide evaluations of technologies. My response was that it might, providing that the opportunity for bias is minimized.

I think, however, that while such an activity might be useful and in fact, has been to the profession already, the profession has its own interests. Each specialty society has to serve its constituents.

I think, from a national perspective, there would be no substitute, I think, for either the re-creation of some agency in the Federal Government or some public-private mixture, but with largely government funding to look at technologies from the national perspective, as opposed to what we do now where it is an ad hoc situation. Even though we have many evaluation mechanisms around the country, they serve their own interests from a narrow perspective.

So, it is really remarkable that in this large country, a very wealthy country, that we have no agency that is responsible for scrutinizing these enormously expensive and often beneficial technologies from the national perspective, whether it is heart transplants or MRI's or lithotripsy.

Representative **Scheuer**. Well, it is remarkable.

We had Joe Califano here telling us that overuse of technology and unnecessary treatments and operations and so forth were responsible for much of that gap between our 8 percent of GNP and the 12 percent of GNP of others.

Well, we have gone way over on this panel because it was absolutely fascinating.

I want to thank you for a remarkably interesting panel.

Thank you very much.

We will have the second panel on the question of computer-assisted diagnosis.

First, we are happy to have Dr. Myers with us today.

Dr. Myers, please sit down. Your looks, your appearance, and your continuing flow of productive work belie the fact that this is your 75th birthday. So, we want to cordially congratulate you and wish you many, many more years of health, happiness, and contributions to the health care system, Dr. Myers.

Dr. **Myers**. Thank you, Mr. Chairman.

Representative **Scheuer**. All right.

We have with us Dr. Jack Myers, University of Pittsburgh, professor emeritus; and Dr. Homer Warner, professor and department chairman, Department of Medical Informatics.

Do I have that right?

Dr. **Warner**. You have it right.

Representative **Scheuer**. That is the first time I have heard that word.

Dr. Warner is with the University of Utah.

COMPUTER-ASSISTED DIAGNOSIS (CAD)

Dr. Myers and Dr. Warner will help us address the issue of computer-assisted diagnosis, CAD. They both worked in this area for close to over two decades, and we welcome them to this panel.

I might say that when I was chairman of a Subcommittee on Health of the Science, Space, and Technology Committee 10 years ago, we had a hearing a decade ago on computer-assisted diagnosis.

I suppose it was in its infancy then, and we had a very good hearing.

Apparently—or at least we felt—that a segment of the health care profession that might be willing to use it would be the medical corps of our Defense Establishment. If you could only turn a doctor at the top, you could just issue the order and then doctors would use it.

But that didn't happen, and I suspect that this is a system that is vastly underused in our society, but we will learn about that from you.

Dr. Myers, why don't you take 7 or 8 minutes and proceed at will and chat with us informally and don't hesitate to address anything that you have heard this morning from the prior panel.

Your full statement will be printed in the record.

We are very happy to have you. We congratulate you again. We look forward to hearing from you.

STATEMENT OF JACK D. MYERS, M.D., UNIVERSITY PROFESSOR EMERITUS OF MEDICINE, UNIVERSITY OF PITTSBURGH

Dr. **Myers**. Thank you. I am very pleased to be here, Mr. Chairman. I suppose the first question might be why an old codger in his 70's is working in this brand-new field. Well, I think the answer to that is very simple. This is my 51st year in academic internal medicine, so I have had considerable experience, and it became very clear, particularly in the 1960's, that the advances in medical information were such that the human brain just couldn't deal with this mass anymore.

We now have some quite good predictions on what the mass is in internal medicine. It is currently about 450,000 items of information, and it is continuing to grow, of course.

Representative **Scheuer**. Is that facts or things that are known?

Dr. **Myers**. That the doctor needs to know.

Representative **Scheuer**. That the average general practitioner needs to know?

Dr. **Myers**. I am talking about internal medicine, but it would also apply to the general practitioner.

Representative **Scheuer**. Yes. Roughly half a million facts. Right.

Dr. **Myers**. And this is only for diagnosis. This doesn't consider treatment, you see, therapy.

Now, the next point is that the human, in solving a difficult problem in medicine or anything else, for that matter, can only bring into his working memory 100,000, approximately, items of information.

Well, it is obvious then, in internal medicine, which fifth does he bring in? That is an arbitrary judgment, and so it may well be that the right batch of information is not brought in and accordingly the correct diagnosis is not made.

Well, because of those considerations, I said to myself that the computer is the only way to store all of this information so that the physician can retrieve it when he needs to.

So, we set out in the early 1970's to program the whole field of internal medicine, which is a massive undertaking, I trust you realize. That includes some 750 to 800 diseases. It includes about 5,000 different manifestations of disease—symptoms, physical signs, laboratory data, and so forth—and thousands of interrelationships among diseases, because diseases are interdependent, as you probably know. They are not all independent.

Well, we have come pretty well along with this. We now have over 600 diseases in our program, and we are closing in.

One thing I didn't realize but should have was that the matter of keeping up to date on medical information was almost a superhuman activity. And I spend most of my time doing that and let others program the new diseases or additional diseases.

Now, what are the applications of all of this? Well, I think many of them are self-evident. Being an internist myself, I know that approximately 10 percent of the patients who come in have some unusual disease or a difficult diagnostic problem; the other 90 percent have a common disease and the answer is pretty self-evident.

This kind of program that we are building is for that approximately 10 percent. But here we can spend an awful lot of time and an awful lot of money trying to unravel the problem. So, don't be deceived by the small number of 10 percent.

The computer system will clearly guide the physician in his workup. It asks very intelligent questions, starting with the simple, uncostly questions, and proceeding with things that are costly, dangerous, invasive, and so forth, and in that sense again I think we can economize the process.

Now, as I said in previous testimony before another congressional committee, the layman should not look upon these programs that we have as a replacement for the physician or for his judgment. They are consultative to him. They provide him advice; he can take it or leave it according to his determination.

Representative SCHEUER. It is a support service?

Dr. MYERS. Yes.

Representative SCHEUER. And it shouldn't threaten the physician in any way?

Dr. MYERS. I don't think so. In fact, our experience—and I was coming to this but I might as well answer it now—if you can show the physician that your program is accurate, is useful, and easy to use—we use the term "friendly" in that regard——

Representative SCHEUER. User-friendly.

Dr. MYERS [continuing]. Then he is a convert.

Representative SCHEUER. Well, let me ask you how many—what are there, about 450,000 physicians in this country, something like that?

Dr. MYERS. Something like that.

Representative SCHEUER. OK. For what percentage of them would computer-assisted diagnosis be relevant and appropriate as a tool?

Dr. MYERS. I think almost all of them.

Representative SCHEUER. OK.

Dr. MYERS. Now, the narrower the specialty, perhaps the less critical. But that is the only point I would make.

Representative SCHEUER. What percentage of them, A, have it available and, B, are willing to use it and are interested in using it?

Dr. **Myers**. Well, I think this is a question better left for Dr. Warner, because he has distributed his program.

We are very reluctant to distribute our program widely, since it is not complete.

Representative **Scheuer**. It never will be totally completed, will it, Dr. Myers?

Dr. **Myers**. Well, reasonably complete.

Representative **Scheuer**. Haven't you just told us that staying on top of new technology is an almost impossible job?

Dr. **Myers**. Well, almost, but I don't think as impossible as for the individual physician to accomplish the same thing.

Representative **Scheuer**. Right.

Dr. **Myers**. But, you see, we still have——

Representative **Scheuer**. But this is a process you're talking about of constantly cranking new knowledge, new evaluations, new perceptions, new findings, new judgments into the computer so that they will be available to doctors when, as, and if they need them.

Dr. **Myers**. Right.

Representative **Scheuer**. And that is a process that will go on forever, I presume.

Dr. **Myers**. Oh, sure it will.

Representative **Scheuer**. Yes.

Dr. **Myers**. Absolutely.

And I think that we should emphasize at this point that programs like ours not only give consultative advice to the physician regarding diagnosis, but if he's interested in a particular disease he can get out of his personal computer—and we use IBM PC AT's or equivalent, so we're not talking about fancy mainframes anymore—he can take any one of the diseases and get a complete profile of that disease in 15 seconds or so with semiquantitative values as to what those individual manifestations of disease mean.

Representative **Scheuer**. That is remarkable. And you want me to sit here quivering on the edge of my chair and wait until Dr. Warner tells me the percentage of doctors in America that have availed themselves of this. [Laughter.]

Dr. **Myers**. Well, I think they all will eventually because, you know, personal computers now, like the IBM PC's, are extremely widespread and the system could be translated, I suppose for the McIntosh and others. We are not dealing with a big, fancy machine.

In fact, the big machine I have been working on most of this time, called SUMEX, at Stanford, is being discontinued in a year or so. Nobody wants to use it very much. It's much easier to go to your office to use your own personal computer.

Representative **Scheuer**. Excuse me. I have taken a great deal of your time. Why don't you continue for another few minutes.

Dr. **Myers**. All right. Fine. I appreciate that.

No only can the physician get the profile of any disease, he can also put any one of the 4,200 or so—and eventually it will be about 5,000—manifestations of disease in.

Suppose he puts in "severe headache." You get a list of all the diseases in which severe headache occurs, and they will be rank ordered by the frequency, et cetera, of the severe headache. Again, you know, we can't remember all this stuff off the top of our heads.

Representative **Scheuer**. Then, when you crank in the second symptom the patient has, the computer will knock out a lot of those things.

Dr. **Myers**. That's right.

Representative **Scheuer**. And it will give you a much smaller list, and when you crank the third in, it will be a still smaller list. Before you crank very many more symptoms in, there is going to be, I would think, a choice between one or two or three diagnoses.

Dr. **Myers**. Yes. Very, very few, depending on what the information is, of course. And you have summarized how the computer gives diagnostic advice to the physician. You see, he sits down and puts in in an uninterpreted fashion—hopefully, totally uninterpreted—the patient's demographic data—sex, age, et cetera—symptoms, physical signs, then whatever laboratory data he has—and then in most instances but not all—it depends on the data—in most instances you're down to two or four reasonable possibilities at that juncture.

Then questions are asked to differentiate among those several possibilities.

CAD IN EDUCATION

Well, the other thing that I would emphasize is that systems like ours have real educational values, not only for medical students but for residents in training, clinical fellows, and as I have just said, the practicing physician. Our medical students use these programs a lot because they don't know too much about medicine, obviously. That's the reason they're students.

They want the profile of, say, Rocky Mountain spotted fever, and out it comes, you see. And they don't have to spend many hours consulting textbooks and whatnot in order to get an equivalent amount of information.

Representative **Scheuer**. Are medical students around the country being trained as part of their years of medical school training to be computer literate and to access your computer-assisted diagnosis, as a normal, predictable, unexceptional part of their practice in routinely diagnosing a patient who walks into the office?

Dr. **Myers**. Well, I think it will become that. Let me just say that——

Representative **Scheuer**. What percentage of the medical schools now teach computer-assisted diagnosis?

Dr. **Myers**. I don't know the exact percentage, but it is a progressively increasing number. We just started a course in our school this year.

Now, I think the important thing here, Congressman Scheuer, is that, you know, the older a physician is, the less he is receptive to innovations. We find now that the great majority of our medical students have had experience with computers in college and they understand these and are not scared off about the technology. So, they are happy to use this kind of technique.

The program, as we have developed it up to this point for educational purposes, we also have in several dozens of medical schools around the country as sort of a trial run. Those schools then report back to us, of course, what they find they don't like and what they do like.

Dr. Warner's school is one of those that has access to this sort of procedure.

LOW-OPERATING COSTS OF CAD

Let me make my final comment. I hope you realize that although building these systems is very time consuming and, to some degree, costly in personnel, this has all been supported by the NIH, the Division of Research Resources there, and the National Library of Medicine. So, the public has built the system, so to speak.

The actual operating costs for the individual physician, provided he has his personal computer, is extremely small. Really, the only cost that he puts into it is his time.

Now, I have already emphasized that in a difficult problem the physician may spend many days or even several weeks thinking about maneuvering information before he comes to a diagnosis. That time is tremendously cut down if he will consult one of these expert programs and get some guidance as to which direction he should go, again, in that small group of roughly 10 percent of patients.

Thank you for the opportunity to make my comments to you today.

[The prepared statement of Dr. Myers follows:]

PREPARED STATEMENT OF JACK D. MYERS, M.D.

The Role of Computer Assisted Diagnosis (CAD) in Medical Care

The growth of medical information has been very extensive beginning in the 1950s but particularly in the last 25 years. We have good estimates that the broad field of internal medicine now includes over 450,000 items of information, more than the human brain can contain. This number of items applies to diagnostic information; therapy is another consideration. A skilled internist in solving a difficult diagnostic problem can bring into his working memory only about 100,000 items of information. Thus there is a real likelihood of his not bringing in the appropriate information with which to solve the problem.

Quite obviously some memory assist is necessary and the computer is the answer with its very large memory. Therefore we decided in the early 1970s to devise a computerized diagnostic program for the large and broad field of internal medicine using the techniques of "artificial intelligence". The field includes some 750 diseases and utilizes about 5,000 individual manifestations of diseases as well as many thousands of inter-relationships (LINKS) among the 750 diseases. The total numbers are growing continually, e.g. when we set out Legionellosis and AIDS had not yet been recognized. Our program now includes over 600 diseases. Updating the program with new information and deleting errors and data which are no longer pertinent is a huge task but is being accomplished. For example, when we started our program building, computerized tomography (CT) and magnetic resonance imaging (MRI) had not yet been developed. A team of faculty members, clinical fellows, and medical students on elective assignment work steadily. The project has received generous support from the NIH (Division of Research Resources) and the NLM. Private foundations have also helped.

Our program called QMR, for Quick Medical Reference, and previously known as INTERNIST-I, currently operates efficiently on personal computers such as the IBM XT or AT; large mainframes are no longer necessary. The cost of a case analysis, once the hardware is in place, is quite small. In fact the main (indirect) cost is the physicians time, but the reader should realize that in difficult diagnostic situations the physician may spend in the office or hospital dozens of hours of his time over days to several weeks.

Our program is devised, therefore, for help in these difficult diagnostic problems often involving unusual or rare diseases. Depending on his type of practice in internal medicine, the average physician should require computer assistance in probably not over 10% of his patients, the rest representing common diseases or easy problems.

We have analyzed thousands of non-routine cases in internal medicine with very good although not perfect success.

The QMR diagnostic program is devised to proceed from simple and uncostly items of information (e.g. data from the history and physical examination) to more or less routine laboratory observations and, finally to invasive or costly procedures only when needed.

We have always considered adamantly that the guidance and/or diagnostic conclusions are presented to the user for his serious and reflective consideration. The computer program provides advice or "consultation" to the physician and in no way is devised to replace him. Human beings remain very intelligent!

Our computer system can provide to the doctor very promptly, when he consults the personal computer in his office or on the hospital floor, a listing of all the manifestations of a given disease or a listing of all the diseases in which a given clinical manifestation occurs along with semi-quantitative information as to how strongly a given manifestation suggests or supports the disease(s) of interest. The system will also provide a listing of all the other diseases with which a given disease is associated, again with the semi-quantitative information. (These retrievals of information apply only to diseases which have been profiled, but in a few more years the system should be "complete").

The reader will appreciate that this storage and retrieval of information has real educational value for medical students, residents in internal medicine, clinical fellows and practicing physicians.

Computer scientists and physicians have built many programs in medicine. The majority of these are quite small and circumscribed programs which are applicable only in special and appropriate situations. A few builders have built broad programs similar to ours. We strongly believe that the latter will have the greater impact on medical practice in the future.

The question is always raised as to how well computer assisted diagnosis will be accepted by the medical profession. Our experience almost from the beginning is that acceptability depends on three factors: (1) the accuracy of the program, (2) its helpfulness, and (3) its ease of use or "friendliness". We believe our program has these attributes.

In summary and even though we are prejudiced, it is our strong belief that CAD is necessary for the future and will improve the quality of medical care and reduce its costs.

Representative **Scheuer**. Dr. Myers, thank you very much for your most interesting presentation.

We will now hear from Dr. Homer Warner.

Please chat with us for 7 or 8 minutes informally and address anything you have heard this morning.

STATEMENT OF HOMER R. WARNER, M.D., PROFESSOR AND DEPARTMENT CHAIRMAN, DEPARTMENT OF MEDICAL INFORMATICS, UNIVERSITY OF UTAH

MEDICAL INFORMATICS

Dr. **Warner**. Thank you. I have enjoyed this very much, and I appreciate the honor of being asked to make a few comments.

I, like Dr. Myers, have worked a long time in this field and am as enthusiastic as I ever was about what we might contribute in this field of informatics about which you raised a question.

Informatics, let me just define that for you. I have a very simple definition for it. I think it is simply the activity involved with rearranging information to make it more useful to people. It's that simple.

That activity now has become a formal discipline because of the arrival of the computer. We now have a tremendous opportunity.

Representative **Scheuer**. You say it rivals the computer?

Dr. **Warner**. I say it is the arrival of the computer that has made this a really interesting activity.

Representative **Scheuer**. Yes.

Dr. **Warner**. And I think we have before us this morning a very important problem to consider. We as a country have put tremendous funds into medical research. We have a mass of literature out there that Dr. Myers and the others referred to this morning, and some way we have to rearrange that information to make it accessible to the people who are making decisions every day about patients, not only about technology but about all other aspects of medicine as well.

The challenge is: How do we now take advantage of this tremendous technology? If we look at the expense of the devices like CAT scanners and the equipment that goes into heart-lung bypass, and other technology, that continues to escalate. If we look at the costs of computers—and it is a phenomenon of our society—it is going down to where they are almost free. The hardware is as cheap as a program now. You can duplicate it.

We have just installed in one of our hospitals a 550-bed hospital, a computer at every bedside. And we have justified that based on our experience to date.

Representative **Scheuer**. A computer at every bedside?

Dr. **Warner**. Every bedside has a computer.

Representative **Scheuer**. That is for the doctor's use?

Dr. **Warner**. The doctors', the nurses', even the patients'. The patients take their own histories by interacting with a computer, under certain circumstances such as elective surgical admissions. To make that feasible, we had to build enough intelligence into the computer that the computer can carry on an intelligent dialog, the sort Dr. Myers talks about.

So, we are at a stage now where training young people and getting people interested in a career in medical informatics is our principal bottleneck in advancing research and development in this field.

Now, you asked whether these things are being used by the average doctor out there or not. No, they are not. They're not yet available.

Representative SCHEUER. What percentage of doctors are utilizing CAD?

Dr. WARNER. Pardon.

Representative SCHEUER. What percentage of doctors are employing computer-assisted diagnosis in their normal practice of medicine?

Dr. WARNER. Well, less than 1 percent. It is just not being used out there. Now, part of that is the fact that it's not available. We talk about these programs we've been working on all this time, and there are some commercial versions beginning to come out, but we are really not to that point yet. There is still an awful lot of work to be done to build the knowledge base to the point where it can do useful things for the doctors.

Now, in our hospital we have tackled it a little bit differently than Dr. Myers has. We have not approached it primarily from the point of view of that 10 percent of patients that have very difficult diagnostic problems. We look at the everyday decisions that doctors and nurses deal with, the things that happen everyday in hospitals, and we ask ourselves can we have an impact on the quality of these decisions.

We think that many of the mistakes that we make in medicine are not because we don't know the answers but because we just didn't think of it. I can point to you instance after instance of serious decision errors that affect not only cost but even mortality because people who knew perfectly well were up all night delivering a baby or something else and made a mistake.

So, I think the computer will play a very important role in quality control in medicine. In the inpatient setting in our hospitals, it is already playing that role, has been for a number of years. Every prescription a doctor writes goes into the computer. The pharmacist picks up the prescription and enters it using a terminal on the ward. When that information goes into the computer, that data drives—that is, evokes—any decisions that make use of information about that drug.

For instance, a doctor writes a prescription for digitalis. It immediately brings up any decisions about digitalis that are in that knowledge base. And if it comes back and finds that one of these decision frames uses logic based on whether the patient already has a laboratory value that shows that the serum potassium concentration is low, the pharmacist is prompted that digitalis could be dangerous under these circumstances. He in turn prompts the physician before the drug is ever given.

Our doctors respond to these prompts. Initially, compliance with the computer was in the neighborhood of 80 percent. We could follow this because the prompts are all action-oriented kinds of decisions. We monitored how often physicians followed the advice of the computer. Now the compliance is over 95 percent. If the computer prompts them to something, it keeps them out of trouble. It is the answer to this defensive medicine sort of thing. You don't have to order the procedure because you think it may be indicated, you're really not sure. Now you establish ahead of time in your knowledge base the criteria for ordering that, and if that criteria are not satisfied, you don't order it. And you are protected because you are practicing medicine according to the standard of the best thought in that community, what is standard for that community.

Representative **Scheuer**. And you are saying that 95 percent of the doctors who use CAD follow the suggestions of the computer?

Dr. **Warner**. I am talking about in this particular alerting system on medications where we follow every prescription they write, every alert they get back saying that what they have done is potentially hazardous or for some reason it shouldn't be given the way they have ordered it, that when that suggestion comes back to it, they follow it 95 percent of the time.

Now, that has been in operation for 15 years at our hospital. Utilization is improving. I mean, the doctors' agreement with the suggestions that the machine makes to them is improving.

Now, part of that is because the machine is making better suggestions. The knowledge base gets improved as we get feedback from the actual incidents that occur, and part of it is they have learned to have confidence in what is happening.

Well, that is one aspect of it.

Representative **Scheuer**. Well, now let me just ask a question on that aspect of it. It seems to me that concerns on the part of a doctor for true, potential, legitimate malpractice actions would induce him to use CAT.

Dr. **Warner**. CAT-HELP is the name of the system that we use.

Representative **Scheuer**. All right.

Dr. **Warner**. Yes. To whatever the technology is.

Representative **Scheuer**. Whatever you call it.

Dr. **Warner**. All right.

Representative **Scheuer**. Whatever the acronym. But computer-assisted diagnosis can help a doctor determine when certain tests are necessary. And I presume he has a record of that printout?

Dr. **Warner**. That's right.

Representative **Scheuer**. So, it seems to me then the specter of malpractice claims hovering over a doctor would encourage a doctor to use CAD as a sort of informal defense mechanism.

Dr. **Warner**. It does, no question about it.

Representative **Scheuer**. Well, why wouldn't that stimulate the broad spectrum of the American medical profession to adopt this as a legitimate tool and, coincidentally, as a protection against an unwarranted medical malpractice claim?

Dr. **Warner**. Well, it would. Why haven't they done it nationwide, you mean?

Representative **Scheuer**. Yes. Why hasn't this had a tremendously stimulating effect on the proliferation of CAD among the 450,000 doctors of our country?

Dr. **Warner**. Well, I suspect it has had some effect. We presented it primarily to meetings of people in this field, in medical computing. Doctors who are on our staff don't go out and present papers on the subject to their colleagues at their specialty meetings. It hasn't received the kind of publicity that it might have amongst those people.

But on the other hand, you have to realize that this is happening in a very limited setting. It's an inhouse, inhospital setting. It isn't out in the average doctor's office.

Representative **Scheuer**. Well, it seems to me that if doctors could use CAD, A, to sharpen their diagnosis in the 10 percent of the cases that are difficult and perplexing, and B, if the record of the computer's suggestions in this particular case to test or not to test, to operate or not to operate were available as a record, a permanent record, it seems to me that doctors from their own self-interest would be motivated to get CAD in their office if it is as inexpensive and simple as Dr. Myers says it is, and I am sure he is right.

Why hasn't there been an explosion of interest on the part of doctors around the country, general practitioners, the whole works?

Dr. **Warner**. Well, it hasn't been available to them. It hasn't been—Dr. Myers' system isn't yet commercially available. They can't go out and buy that.

Our system operates on a big computer that requires a several-million-dollar investment on the part of the hospital. Only in recent years have we developed a more easily distributed model similar to the Pittsburgh model. Ours runs on a McIntosh, but that can be installed in any physican's office.

Now, that isn't quite as powerful as the big system. Let me stress the difference. The big system allows the data to drive the decision-making. That is, if a new value comes back from the laboratory and that value is used by some decision or a set of decisions, those decisions will be processed in light of everything else the system knows about that patient.

So, the physician doesn't have to go and ask for help every time something happens. That is a very important concept here. It is a monitoring process. Any new information that comes in on a patient will automatically prompt the system to use its knowledge base to make whatever decision it can. And if a decision is made, that may be presented back to whomever is the most appropriate person in the form of an alert that something requires action on the part of that person.

Now, that system can work in a hospital environment where you have data coming into a central system. Out in a doctor's office, everything that goes into such a system must be keyed in. Now we are getting beyond that. Many doctors' offices now have access to laboratory results coming back in electronic form, and I think very soon we will overcome part of that communication problem and the data entry problem.

But that is one of the bottlenecks.

DISTRIBUTION OF CAD

Representative **Scheuer**. Do you think there are experimental programs that would perhaps expedite the entry of this CAD system—computer-assisted system—into individual doctors' offices that perhaps the Congress might think about? Is there a program that you would suggest?

Dr. **Warner**. Well, I think there are several programs like that. Dr. Myers' program is one. We have a program called ILIAD, which runs on the McIntosh. It is another one that we are using presently in a setting to teach medical students how to diagnose. But it will be ultimately available to practicing physicians. There is one out at Harvard called DEXPLAIN, which is available by phone callup over the AMANET.

These are going to become available, there's no question about that.

Representative **Scheuer**. Is there anything we in Congress could do to encourage their availability, let's say perhaps first in the group practice setting, HMO's and the like?

Dr. **Warner**. The next step could be beginning to make physicians aware of the potential of these kinds of things and get some prototypes out and evaluated.

We have present grants, as Dr. Myers has also, to evaluate these systems. The evaluation of this technology is just as important as the CAT scanner or any other kind of technology.

Representative **Scheuer**. Sure it is.

Dr. **Warner**. We are in the evaluation stage. But let me stress that we are only part way there. There is still a massive effort at what we call knowledge engineering, the sort of thing that Dr. Myers has been doing for 10 years now.

And we have been involved in that same thing, only more as a group process where we get experts together with people knowledgeable about the computer modeling and so on, and with those experts in session after session try to extract the knowledge from the experts. We go to the literature, get the knowledge, and try to convert it into forms, into models, if you will, that can be implemented on a machine.

Now, we have only just scratched the surface of what needs to be done in terms of building these models. It is a giant task ahead of us for all of medicine to convert our knowledge into that form.

Representative **Scheuer**. I understand, Dr. Warner, and I am not suggesting that that process should not go on. But it does seem to me that if a doctor with a simple little Apple computer or a McIntosh computer that you can buy for a couple of hundred bucks could have even the current state-of-the-art, the current knowledge, available to him in his office, that would be a very significant assist to him in his diagnoses.

I wonder how much longer it makes sense for our society to wait for you to achieve perfection in your system before getting it into the offices of the 450,000 physicians around the country.

Might we not get into those offices the technology that we have now?

Dr. **Warner**. Oh, I think we could. I think there is a compromise, a point where we ought to do that. I think what Dr. Myers and I are both leery of, though, is getting it out too soon. We both want it to do well when it gets there. We don't want to oversell or get out prematurely to the point where we turn off the medical profession.

Representative **Scheuer**. Well, nobody is suggesting that computer-assisted diagnosis is a substitute for a doctor making judgments on the spot. It is only an assist to him, and as I get it, it's a hell of a lot better for him to have it than not to have it. There are gains in having it and no losses to having it if the doctor uses what comes out of the computer with a sense of judgment and discretion and his own personal insights, which of course he would. We would expect the doctor, he or she, to do that.

So, why, especially if you're talking about virtually zero-capital equipment, why wouldn't it make sense to get that out now?

Dr. **Warner**. Well, we are getting it out now. There are a number of companies. For instance, this HELP system, this hospital information with a decision attachment to it, is being marketed by 3M, a big company.

Representative **Scheuer**. Yes.

Dr. **Warner**. They are putting it in. It is going in, for instance, out in our area. Intermountain Health Care, which is a big hospital company with about 25 hospitals, is now putting it in all 25 of their hospitals. And it is going in. It is happening.

The ILIAD system, which is the McIntosh version of this, which is designed primarily as a teaching tool, is now out in, oh, seven or eight beta test sites, other university settings, to see how medical students respond to it. We need to evaluate the tool as we go along very carefully. And so, we are being conservative about that, and I think that is justified. We don't want to get it out there when there are still bugs in the system.

Representative **Scheuer**. Well, maybe this is just a question of degree, but it seems to me that what you have now is so demonstrably helpful to the doctor that I would wonder why our society wouldn't want to make this effort to get this into at least group practice offices and hospitals. Why wouldn't we want to see every hospital in the country and every group practices in the country have this now in its present admitted imperfect form. It is going to be improved, but certainly it is a tremendous assist now.

Dr. **Warner**. Well, it is an assist. But again, we are worried about the gaps in it, the fact that it isn't complete. What we really need—and you have also mentioned that you are favorable for this—but I think it is very important that we get more capable people, medically oriented people with an interest in computers, who can work on these things.

Two people or even two groups aren't nearly enough to tackle the magnitude of the problem we're dealing with, and the opportunity is tremendous, but the job is a big one, too, and there is a lot of work to be done.

CAD AND MEDICAL MALPRACTICE

Representative **Scheuer**. From the point of view of medical malpractice, is the availability of computer-assisted diagnosis to a doctor a plus for him or a minus for him? Does it present problems to him in the field of medical malpractice?

Dr. **Warner**. I think it's a tremendous plus.

Representative **Scheuer**. A plus.

Dr. **Warner**. For the following reasons: Not only will it prompt him what the experts have agreed at that point in time is the right logic to pursue, but if indeed when he recognizes that this case is a little different and there are special reasons why he wants to do something "nonstandard," it prompts him at that time that he needs to document that in the chart, to explain why he is doing something a little different than what the standard practice might dictate, you see.

Representative **Scheuer**. Are there any regulatory problems or barriers that must be overcome to protect doctors if this program or advice gives him a faulty start or direction?

Dr. **Warner**. Well, perhaps you know, but the FDA has struggled with this question.

Representative **Scheuer**. Should we change the liability laws to enhance the attractiveness of this? Do the liability laws and medical malpractice present any kind of a deterrent that we should address, that we should think about?

Dr. **Warner**. I am not aware of that. I think the issue that has not been tackled and I think really does need to be is the issue of who owns and thus who is responsible for the logic that is in the machine.

Dr. Myers mentioned what a big intellectual effort is involved in creating a knowledge base in a particular subject area. Now, who owns that? Is it like a book? Do you have a copyright on it? And if you distribute it, then is the person who distributes it responsible for any decisions it makes? Or do you treat it like a book in which the suggestions that are made are only that and the doctor maintains all responsibility for what he ultimately does to the patient?

The FDA has just made a ruling that indeed at least in this point in time they will not regulate these expert systems because the doctor, the person that's responsible for that decision, is still in the loop, and only if the machine is actually performing some action such as the IV drip of a medication or something like that automatically will it have to be regulated.

I hope it won't be regulated at this point in time because I think we need to get involvement from experts, we need to get something out there that can be experimented with and tried, and as long as we continue to have the physician in the loop and this is simply a source of knowledge rearranged to make it more convenient for a physician, I think we have taken the right direction.

CAD AND THE CONSUMERS

Representative **Scheuer**. How about the question of this computer being a source of knowledge from the point of view of the patient, the health consumer? We have had a lot of talk in recent years about the importance of preventive health care, about the importance of people taking charge of their own health outputs in diet, exercise, avoidance of tobacco, alcohol, mind-altering drugs affecting the central nervous system. I could see, if this system requires a simple Apple computer or a McIntosh, that consumers could input that system, they could plug into the system and ask it questions about their own health.

To what extent is this likely to be a legitimate tool for the health consumers of America to enhance their own health outputs, and to what extent do we have to worry that with the use of this system consumers are going to get into deep water and that they are going to be way beyond their depth and that the computer under some circumstances might harm their health and not benefit their health?

Dr. WARNER. Well, that is a worry. I mean, obviously there is a tradeoff. Once you get into the position where the patient is calling the computer to ask for advice, you have now taken the doctor out of the loop.

Representative SCHEUER. We are now taking the doctor out of the loop?

Dr. WARNER. Out of the loop. The doctor is no longer in that loop, is he?

Representative SCHEUER. Well, no, it seems to me that the system could be designed to keep the doctor in the loop.

Dr. WARNER. Yes, but if you take the doctor out of the loop, all of a sudden now who is responsible for that advice that the computer is giving, you see? Now you have a different kind of responsibility, and whether manufacturers will be anxious to market that kind of a product and whether the Government should stay out of regulating that kind of a product is another matter.

So, I think it will be some time—at least I hope it will be some time—before that happens because I think we need to go through an awful lot of testing, evaluation, and be even more cautious about how we introduce this directly as a patient service than we are in introducing it to the physician.

Representative SCHEUER. Can you envisage software developed with an eye to assisting people in the legitimate protection of their own health, through preventive measures, whereby people could ask the computer, "Well, I have a stiff back and a little malaise, three or four other things. What should I do?" Could computer software be developed that would know, in effect, that a nonmedical professional is inputting the system and give reasonable advice to the patient and also tell the patient when he or she ought to be accessing a doctor and not relying on this computer for simple preventive health care suggestions?

Dr. WARNER. We have had already considerable experience with that in one facet of it; that is, the patient input part of it. As part of a service for screening patients coming in for elective surgery, where the patient comes in with a known diagnosis, to have a particular operation performed. We are screening that patient for secondary diagnoses that might complicate that operative procedure.

We have done over 35,000 of those patients, where a patient sits at a terminal, interacts, enters the information himself. We have found that indeed the computer can make the right diagnosis, from history only, in 70 percent of the cases.

Now, that doesn't mean that from history data alone one would want to feed back treatment information to the patient. That is what I am talking about.

Representative SCHEUER. Right.

Dr. WARNER. I think no question, the potential is there for doing something useful. How it is controlled, I think, is another kind of a social issue that we are not really ready to tackle at this point in time.

Representative **Scheuer**. There are some of us who believe that consumers should be empowered with knowledge in every aspect of their lives as people, for all the goods and services that they purchase.

I think we have come to a very heightened feeling in the whole area of health care that if we are going to make any economies in our health system, one of the things we have to do is empower consumers with knowledge and understanding that they are in charge and that their own life style—tobacco, alcohol, drugs, and so forth, as I mentioned before—is more responsible for their health outcomes than the availability of CAT scans and open-heart surgery and quadruple heart bypasses.

Now, consistent with the idea that we are going to empower the consumer to make more rational judgments on life style and so forth, I could see the possibility in the future that we could design software expressly intended to be used by consumers and with a built-in express early-warning signal that at this point in time you ought to consult a health care professional, either a doctor or a licensed nurse.

But I see a great potential of this system in helping people control their own health outputs. I see a great potential in playing a significant role in our preventive health care system.

Yes, Dr. Myers.

Dr. **Myers**. Well, I agree thoroughly with what you have just said, and I think these systems can provide information to the general public if, for example, they ask our system about cigarette smoking, they are going to learn that this is bad in regard to emphysema and cancer of the lung and so on and so forth.

But I feel just as strongly on the other side that none of these systems should ever give diagnostic advice to the layman. Anybody who is sick, whether he is a physician or not, anybody who is sick, cannot be objective about his own illness. We get too deeply emotionally involved in our sickness.

So, if one is talking about computer-assisted diagnosis for the layman, I very strongly object, and I don't believe those things should ever be developed.

But as far as giving health information——

Representative **Scheuer**. Never is a long time. [Laughter.]

Dr. **Myers**. All right.

Representative **Scheuer**. Dr. Myers, there are two words I never ever use. [Laughter.]

And one of them is "never" and the other one is "ever." [Laughter.]

Dr. **Myers**. But I don't think the human brain is going to change that much, you see, as far as I can tell. This is an emotional reaction that we get when we are ill.

But to conclude, I think that if we are providing health information for the layman, that is a real plus.

Representative **Scheuer**. Right.

Dr. **Warner**. I could see one other scenario we have talked about a bit in our group, and that is the mother with the sick child who calls in the middle of the night and can be asked a few pertinent questions and be advised in the same way that a physician might advise over the telephone for triage of a patient to the doctor or not to the doctor, the sort of things that wise mothers are doing anyway. They are making decisions after they have the information. How that is going to evolve, I don't know.

I would like to stress one other point, I think, that this medical informatics that we are in is very much a behavior science. We talk about rearranging information, but the only reason for rearranging it is to accommodate the intellectual needs of people, how they use it, you see.

I think there are some very challenging sort of experiments that we might try in the very near future to see if indeed people can accommodate some things better than they would otherwise.

We were afraid for some time that computers might, by trying to standardize our lives, limit our options. But as a matter of fact, they do just the opposite. Because of their ability to handle complexity, they leave this multitude of options open to us as they become more sophisticated and more easily accessible and easy to communicate with. We haven't even scratched the surface, I think, of what they are going to do for us if we use them properly.

Representative **Scheuer**. Well, that is all extremely interesting. I take it that less than 1 percent of the doctors in our country have access to computer-assisted diagnosis.

Dr. **Warner**. I think most of them have computers in their offices, but computer-assisted diagnosis, no.

Representative **Scheuer**. Right. In other words, they haven't plugged into a system, they haven't plugged into a computer somewhere in California or Texas or Utah that has access to those half a million facts that Dr. Myers talked about and will spew them out when the right questions are asked. Less than 1 percent.

CAD IN EDUCATION

What percentage of the medical schools are teaching computer-assisted diagnosis to their students as a normal part of their medical education?

Dr. **Warner**. I think a few are teaching some of the notions of probabilities and of decision logic. Almost none are teaching diagnosis with the help of a computer. The tools are starting to be available, and I think there is a good deal of interest out there. I have made several presentations. Dr. Myers and I were on the same program here recently with the AAMC, the American Association of Medical Colleges, talking about where we're going in that area.

The sessions I have been in where I have talked to people from other medical schools indicate that they all recognize something out there that they would like to be going for, but we haven't even scratched the surface yet.

Representative **Scheuer**. Even with the medical schools?

Dr. **Warner**. That's right.

Representative **Scheuer**. It seems to me that's a real challenge to get the medical schools, who are after all training the doctors of tomorrow and the next generation, to take these young people who are, most of them, computer literate anyway and teach them at that point in their careers when they are just starting that computer-assisted diagnosis is just a normal part of looking at a patient, just like washing your hands.

Dr. **Warner**. Let me just tell you this for your interest where we are at Utah with this. We have a grant from the National Library of Medicine which will allow us now to evaluate whether this computer-assisted diagnosis tool helps medical students to learn. We have put now McIntosh computers on all the wards of the three teaching hospitals.

The students, as they work up a patient, enter data from every case into the computer. The computer will provide for them as they go along the differential diagnosis, explain the findings, but most importantly, tell them what to do next.

That is, they can ask at any point in time what is the most valuable thing to do. And as Dr. Myers said, part of that learning has to be learn to do the least expensive things that will give you the information to get at the problem solution.

So, those students are going to come out very familiar with how to use a computer.

Now, in addition, the computer does something else. You see, the medical student is expected to learn—we expect our students—to know about 200 diseases by the time they finish a 6-week clerkship on medicine. That is from having seen maybe a dozen patients. Obviously, they are not going to get experience with all those diseases. So, we use the machine. Our knowledge base is in the form of a statistical representation: how often do these findings occur in the disease, you see, that kind of thing.

And because of that, we can generate theoretical cases as many as we wish, and everyone will be statistically appropriate. So, the student can work with theoretical cases all night long. He can see cases, as many cases as he wishes. Each one is a little different, but they are all statistically appropriate.

So, those kinds of tools with the students working with the computer as a simulated patient is going to give a much broader experience, much more confidence in the problem-solving skills we want a doctor to have. We don't want to train the medical student of the future to hold a lot of facts in his head; we want to train him to solve problems, they solve the patient's problems, and to do it with this powerful tool at his bedside so he can get some help from it, you see.

Representative **Scheuer**. Well, I totally agree with what you say, and I totally agree that that is the goal of the medical school to teach these young people to be expert problem solvers. I have a hard time understanding why it wouldn't make sense to have an Apple computer or a McIntosh for every medical student and assist him whereby he would use that computer with the computer-assisted diagnosis capability just as a routine part of seeing patients, just as I said, like washing his hands and putting on his white jacket, that he wouldn't even think about it, it just would be part of the normal, natural routine.

It would be very helpful for him in that 10 percent of the cases. Maybe in the other 90 percent he wouldn't use it or whatever. I just don't understand why that shouldn't be made a routine part of medical school training now.

Dr. **Warner**. Well, that is our goal.

Representative **Scheuer**. To make these kids comfortable with it and teach them how to use it when they're young, they're flexible, they're capable of adaptation, and with the fact that they don't have to adapt because it is a basic part of their medical school career.

Of course, the problem with the present doctors is that they get out and when it's introduced after they have been out in that free private-enterprise world, they begin to feel threatened, "Well, things are changing." But if you give it to them right when they're getting their medical training, nothing is changed, this is just part of practicing medicine, that is the way you practice state-of-the-art medicine.

I mean, isn't the logic of that compelling? Am I wrong? Am I misunderstanding?

Yes, Dr. Myers.

Dr. **Myers**. No, Mr. Congressman, you are quite right. But you are a very progressive fellow.

Representative **Scheuer**. No, I am not, I am very conservative. [Laughter.]

I want the best health care outputs in American society for the least cost.

Dr. **Myers**. I know.

Representative **Scheuer**. How much more conservative can you be than that? [Laughter.]

Dr. **Myers**. Well, I am using "progressive" in a wholesome sense.

What one has to realize—and I am sorry to have to say this—is that the majority of persons on medical school faculties still think the way to educate is by transfer of information.

I am sure that you find that.

I find this everywhere I go. And from what I have said already and from what you have concluded, this is absolutely futile. In my own field, how in the world can you transfer a half-million items of information and have the student remember anything? The more you transfer, the more confused he gets, and things are a mess.

So, what I am really saying is that medical school faculties need to be as progressive as Representative Scheuer, and then we will solve the problem and do exactly what you recommend.

Dr. **Warner**. In defense of our faculty [laughter]—I would like to say that we built this program at their request.

Dr. Odell, who is chairman of medicine, had recognized that indeed the lectures that supplement the clerkship experience for these students was inadequate. The faculty didn't like it. The students were not attending the lectures. He asked if we couldn't come up with something with the computer that would be a better supplement for that seeing of patients for the first time.

And so we had a happy environment in which to develop this. But it is not uniform, I appreciate that.

Representative **Scheuer**. I mean, what you just outlined, Dr. Myers, is sort of a "catch-22." We want the students to learn this in medical school, but because their professors in medical school seem threatened and have the feeling that it's not a question of accessing knowledge or helping relate half a million pieces of information to a particular case, it is just a question of mass transfer of knowledge. The students aren't going to get it, and 5, 10, 15, 20 years from now, those students as they start practicing are going to have the same biases that their faculty members had, which was the reason why they didn't learn it at medical school and now the reason why they are going to feel threatened by it in the profession.

Isn't that a sort of a "catch-22"?

Dr. **Myers**. Well, it is, except I think it is curable. What we have to do is to get more faculty members like Dr. Odell, you see, who see through this problem.

I think one has to realize that if you are a teacher in a college or a graduate school like medicine, that one gets a certain amount of self-satisfaction by transferring a package of information at the end of a fine lecture, "That was a great thing I did today."

My point is: No, it was not; it was a futile exercise. And I think we have to educate our faculties not only in medicine but in many other fields as to the point you make.

Representative **Scheuer**. Excuse me. I take even greater pleasure in feeling that I had empowered these young men and women who are going to be practicing medicine to access in an intelligent, organized, thoughtful way all of the extant medical knowledge and give them a magical ability to access half a million or more facts and distill it and use that computer as an assistance in distilling the medical knowledge that has accrued since the beginning of time and help them apply it to this particular student.

What greater sense of satisfaction could a professor have than that, to enable a student to plug in on all of the knowledge of the ages and to be instantaneously at the state of the art in the treatment of this incredible variety of 200 or more diseases.

Dr. **Warner**. You have hit right on the button what motivates people to get into knowledge engineering. It is very interesting, as we get people involved from our faculty to come in and work with us, we have a fellow, Martin Gregory, for instance, a nephrologist, very capable, who meets with us once a week. He is getting so enthused about this himself that it has become his prime motivation.

Representative **Scheuer**. Who is this you are speaking of?

Dr. **Warner**. This is a young fellow, a nephrologist on our faculty. We have maybe, oh, 10 or 12——

Representative **Scheuer**. A nephrologist?

Dr. **Warner**. A specialist in kidney disease.

Representative **Scheuer**. Oh, yes.

Dr. **Warner**. And each of these special areas we have experts who come to work with us, and as they get involved and see the process of trying to pick apart the knowledge in their field and rearrange it in a logical way so that any practitioner could use it, you see, it is a tremendous challenge. It is an interesting thing.

But we need more and more people to do that kind of thing. It is going to be a major activity, and it is something that needs more government support and funding.

DISTRIBUTION OF CAD

Representative **Scheuer**. Well, we have now learned that less than 1 percent of doctors are using the CAD system. How many hospitals around the country are using it?

Dr. **Warner**. Very few in terms of any decisionmaking capability. There are a lot of hospital information systems now. The last 15 years has seen that grow into a major industry. Most of the initiative has come from the administrator, who is concerned about collecting the bill and doing all the financial possibilities in the hospital. Also, the laboratory end of it.

Then the phase we went into next was the phase of collecting medical data in various ways and displaying it back. And that is computer-assisted diagnosis in a way because if you can rearrange that information to show the time course of a laboratory finding or relation to some other variable, that's useful.

But the real payoff is going to come when we get more systems that have expert systems attached to that data base so that the knowledge is also in there as well as the data about individual patients. And the number of hospitals that have that you can count on one hand.

Representative **Scheuer**. Why is that? It is obviously a very valuable tool.

Dr. **Warner**. Well, I think because the hospital administrator, who makes the decisions, isn't really that concerned about helping the doctor. He is a separate business out there in a way. I am exaggerating a bit.

Representative **Scheuer**. Well, there is in every hospital a guy who is director of medical services or health services and he is?

Dr. **Warner**. Not really, no.

Representative **Scheuer**. No.

Dr. **Warner**. No. There is the pathologist, and if you get a pathologist interested, he may be interested in doing something with the laboratory data and so on. You may find an interested party, somebody in the respiratory lab who wants to work with it.

But the hospital as an organization is primarily the administrator, and the doctors are individuals or individual little groups in specialty areas, almost like it was a separate industry that are there as guests of the hospital administrator.

Representative **Scheuer**. Well, I take it you're telling me that there has been really no significant proliferation of computer-assisted diagnosis either among doctors or among hospitals nor is it even being started in the medical schools.

Dr. **Warner**. Well, it's in the very beginnings.

Representative **Scheuer**. Is it being used inhouse in a very small number of hospitals?

Dr. **Warner**. Yes, it is. Our system is in five hospitals now in various parts of the country. It will be going into these 25 hospitals I mentioned out in the intermountain area. And it will be marketed elsewhere.

Representative **Scheuer**. When will it be going into those 25?

Dr. **Warner**. What will be going in?

Representative **Scheuer**. When?

Dr. **Warner**. When? The one up in Ogden, UT, will be going in this summer. It will be the first one outside of the central one it was developed into, the LDS Hospital. And then they will move from that into the other hospitals as they spread it. But they have made the commitment into all their hospitals.

Dr. **Myers**. Let me just say that we have a consultative service going in our own university hospital, and I think you can probably find some other examples.

I would emphasize that the record needs to show that we are talking about a scientific enterprise that is still in its infancy. Computer-assisted diagnosis didn't really start until the 1970's, and the big programs like mine and Dr. Warner's are still not complete, and we are very reluctant—at least our group is very reluctant—to distribute these very widely, particularly to practicing physicians who don't know anything about the background of these programs.

Representative **Scheuer**. So, you would discourage widespread dissemination or widespread use of computer-assisted diagnosis until your system is complete?

Dr. **Myers**. Well, "complete" with quotation marks, as you pointed out before.

Representative **Scheuer**. Yes.

Dr. **Myers**. And that will only take a few more years, I think.

So, we are talking about something that is still in the developmental stage, but as I pointed out to you, we reckon there are about 750 diseases we have to program and we're into the 600's, you see. So, we have made good progress, and once we come to a point where we say this is reasonably complete, then we will clearly emphasize widespread distribution and widespread use.

But I hope you realize that is a bit premature at the present time.

Representative **Scheuer**. Well, now, an article last year in the New England Journal of Medicine suggested that by the year 2000 the system of computer-assisted diagnosis would be fully operational.

Now, do you have any reaction to that? Do you have any feeling as to when your systems, each of you, will be fully operational and available for dispersion around the country?

Dr. **Myers**. I think it will be, as far as ours is concerned, within the next 5 years, maybe sooner.

Representative **Scheuer**. And available for widespread dissemination?

Dr. **Myers**. Yes.

Representative **Scheuer**. Yes.

How about you, Dr. Warner?

Dr. **Warner**. Our system is a little different from Dr. Myers. Part of our system is available for widespread dissemination right now.

The reason it's different is that it is modular. We have emphasized not the 10 percent that are difficult diagnostic problems but the 90 percent that are not, and we have emphasized sort of the prompting aspects of it, the alerting aspects of it.

And even with one of those alerts you could implement the system. Any time you alert a doctor about something that is wrong, that by itself as a stand alone is an implementable system. So that ours doesn't have to be complete at the point where at least what is developed can be disseminated.

Representative **Scheuer**. Well, this has been an extremely interesting panel. Again, we have gone way over our time. I apologize to you for that. You have been here well over 2½ hours.

Let me thank you very much for the very interesting panel.

[The prepared statement of Dr. Warner follows:]

PREPARED STATEMENT OF HOMER R. WARNER, M.D.

THE ROLE OF COMPUTER ASSISTED DIAGNOSIS AND DECISION-MAKING IN MEDICINE

Since the study by the Harvard School of Public Health ten years ago which showed large differences in the frequency with which elective surgery of various types are performed in different parts of the country and even in different hospitals within the same state, it has been recognized that explicit standards of care must be defined and integrated into the practice of medicine. The rapid increase in power and accessibility of computers and the recent development of a new technology called "knowledge engineering" now makes this possible. The prototypes of computer-based systems which can act to prompt physicians based on the best medical knowledge available and can monitor the decision-making process in a real medical setting are now available. To refine and expand this capability for improvement of medical care in all settings is our challenge.

In the past decade, we have seen the development of a new industry whose principle product is the hospital-based information system. The emphasis in such systems is the acquisition, communication, rearrangement and display of that information in a form that will facilitate the decision-making process in the hospital or out-patient setting. We have now come to recognize that this is not enough. We must also store medical knowledge in a form that will facilitate the optimal use of patient information for decision-making. Medical knowledge has become so vast that no physician can acquire and recall all the appropriate facts and relationships needed to solve the patient's problem . Over the years, physicians have specialized in attempt to restrict the body of knowledge needed to perform optimally in a particular subset of the problems that might be encountered. However, this is not by any means a complete solution. The patient's problems often bridge several specialties.

Knowledge engineering is the process of building decision models. The knowledge engineering team usually involves one or more experts in a particular subject matter area, someone with skills in searching the literature databases for relevant information, someone with access to and understanding of a large patient database that can be used to test relationships found in the literature against local experience, and an experienced knowledge engineer. The knowledge engineer must be someone who understands the computer-based tools available for knowledge representation and knows enough about the medical subject matter to communicate with the expert and lead the discussion. The team must have available facilities for organizing and keeping track of the knowledge as it is accumulated. These facilities must also permit testing of the logic in the model as it is being developed in order to get feedback from the expert regarding the model's behavior. The process is a long and demanding one, but is exciting and intellectually stimulating.

To move ahead with the development and implementation of these expert systems, I believe we must do the following things:

1. Provide support for research and training in this field. Knowledge engineers are in short supply.

2. Provide incentive for well-trained physicians and others in an academic setting to enter a career in medical informatics. The rewards in the academic world are based largely on publication and research directed toward the generation of new knowledge. The intellectual task of assembling existing knowledge and filtering and restructuring it for more optimal distribution to those who practice medicine has no rewards at present except the intellectual challenge. We have not yet established an equitable mechanism for sharing expert systems, both with other academic colleagues and with companies that would make a profit from them.

3. Finally, we need to inform those who are responsible for health care delivery of the potential of this modern decision support technology as the means for bringing the best medical knowledge to every clinician. Not only can it provide an ongoing form of quality control that will prompt the physician before an error is made, but it also offers a solution to the growing malpractice problem by providing an alert to any deviation from the expected standard.

COMPUTER MANAGEMENT OF PATIENT CARE AND HOSPITAL FINANCES

Representative **Scheuer**. Now we will move to the last panel of the day, on computer management of patient care and hospital finances. This also is, of course, a question of information management in hospitals, with respect to both patient care and financial management.

We have two very distinguished witnesses: Dr. Jerome Grossman, president and CEO of the New England Medical Center Hospitals, Inc.

How are you, Dr. Grossman?

Dr. **Grossman**. I am fine. How are you, sir?

Representative **Scheuer**. Good.

And we have also Mr. Melroy Quasney, Associate Director of Information Management and Technology Division of the General Accounting Office.

We are very happy to have both of you. I am sure you enjoyed hearing the panels that preceded you. We are operating under the time gun because the House is now in session and we will be having rollcall votes.

But why don't each of you take the 7 or 8 minutes the other witnesses have been taking, and then I am sure I will have some questions for you both.

Try and make it very informal. This is your living room. Don't hesitate to allude to anything you have heard this morning.

Dr. **Grossman**. That is exactly what I had planned to do.

Representative **Scheuer**. Good.

STATEMENT OF JEROME H. GROSSMAN, M.D., PRESIDENT AND CHIEF EXECUTIVE OFFICER, NEW ENGLAND MEDICAL CENTER HOSPITALS, INC., BOSTON, MA

Dr. **Grossman**. In the great abandonment of prepared statement. You have the prepared statement.

Representative **Scheuer**. Your prepared statement will be printed in full in the record, as will Mr. Quasney's prepared statement.

Dr. **Grossman**. If you think the implementation, the whole theme of what you were asking Drs. Warner and Myers about the use of their technology, I would describe the use of computers in management at an equally rudimentary stage. Although widely dispersed, the quality and breadth of those systems is circa 1904, in my mind. We use them widely, but they in many ways are primitive compared to the sophisticated management information which you might see in almost any other industry.

It is my strong belief that most of our institutions, HMO's, and groups, cannot figure out the true costs of the care they deliver. They can't separate out the costs of care given in an individual's hospitalization. They cannot detect variances in practice patterns among physicians for a given condition. We don't know the kinds and amounts of procedures used, and quality control systems are virtually nonexistent.

I would like to believe we don't manage other industries that way. Perhaps we do. That is for another hearing.

However, Norman Vincent Grossman here is optimistic that there are changes afoot which may bring some good things in the future. We have really undergone four fundamental changes. As you heard Dr. Stan Reiser speak earlier, those kinds of things we talked about in the 1960's, the modern medicine that you and I know is really a phenomenon of less than 25 years.

The introduction of, as he described it, the rescuing of patients has extraordinarily exploded the cost per patient. We think the technology as being cost saving, such as the introduction of the polio vaccine, or antibiotics. There we took and had measurable reduction in cost per use and measurable improvements in outcomes. What has gone on since the 1960's such as kidney dialysis, and transplantation has had the opposite effect, increasing the cost per use.

As that has gone on, there has been this great crunch to try to contain costs, so that the issues of efficiency have been at least asked about in our industry in a way it has never been asked prior, again, to the middle 1970's. The pressure on costs have led to four major shifts.

First, we have made the shift from cost to price: you used to be paid simply for the work you did; now it is a fixed price, whether it's an HMO or a DRG for some hospitalization. And as you know, hospitals whose expenses are less than the charges, the price, get to keep it. Those who don't lose money.

We do not really know whether or not there is an appropriate pricing mechanism going on, but at least hospitals have relatively little idea of how to make efficient use of their resources.

The second is the shift from a provider-driven market to consumer-driven market. Whether the consumer is government or individuals, we have gone away from the point where physicians and hospitals can control what services we give—now it's a service delivered to people and we as providers are being asked to document and to respond to what services are needed, what services we provide, and how much the services cost—for the first time, looking like other industries.

Finally, the kind of management science that might apply almost anywhere else can apply to us in medicine, but we have just begun to think about the potential application of them.

Again, the third shift is that——

Representative SCHEUER. Application of what?

Dr. GROSSMAN. Management science, such as information systems, management control, production, and quality control systems. I will talk about that in just a minute.

As you also know, the shift to ambulatory care and the excess production of physicians have created a real competition in the marketplace, and there is truly excess capacity now for the services that people are willing to buy.

Representative SCHEUER. Well, if there were excess capacity on the one hand and true competition on the other hand, wouldn't the system absorb or wouldn't the competition tend to reduce incomes for doctors?

Dr. GROSSMAN. It is.

Representative SCHEUER. Is it?

Dr. GROSSMAN. Yes. For the last 10 years the real income of physicians in most places is level, and in some places, like Massachusetts actually declining.

Representative **Scheuer**. Because it seems to be written in the stars or cast in concrete that a doctor has to gross $150,000 or $200,000 a year and end up with incomes of well over $100,000 a year, or else he is a bloody failure and a disgrace to his profession.

Dr. **Grossman**. Well, I can tell you that we pay our starting physicians significantly less than nurses with 10 years' experience at the center.

Representative **Scheuer**. And when you say "we," you are talking about your medical center?

Dr. **Grossman**. The New England Medical Center. In Massachusetts the incomes are 20 percent below the national average. There are many physicians in the State. Prices are controlled, and the increasing costs of labor and malpractice have driven the increments down against real inflation for the last 10 years.

Representative **Scheuer**. That is interesting.

Dr. **Grossman**. Hospital bottom lines have been diminishing for the last 3 years.

In California the number of negative bottom lines is well in excess of 50 percent.

Representative **Scheuer**. And you think that is mostly because of the effect of competiton?

Dr. **Grossman**. Well, competiton is allowing prices to be set and people to choose to deliver the service at those reduced prices.

Representative **Scheuer**. All right. Please proceed.

Dr. **Grossman**. I think with these changes we then need to understand the services we provide and the true costs and whether they are demanded by the market. Therefore, the application of many of the management-science tools that exist in other places now need to be translated into appropriate uses within the medical care environment. And that is a complicated and difficult task.

It also, I think, begins to provide a critically important opportunity to coordinate the medical care services to which you have alluded. Computer systems such as the ones we have been developing at the New England Medical Center are particularly designed to shift our focus from geography to patients; these information systems now allow us to follow a patient through a full episode of illness, to know what element of care they used, and to begin to use many of the tools, such as process control and management control systems, that exist in other places.

The questions that arise about the future—since I see the yellow light on—is that they do represent, I think, a major tool to allow us to give care within the dollars provided without rationing.

I believe there are enormous inefficiencies in the system that are brought about by the lack of coordination, the lack of communication, and that information systems—and we do have some prototypes at the New England Medical Center—can follow a patient. Using such systems, a physician and nurse can follow their patients, whether they are in the hospital, at home, in the office or wherever. We have been able to document with these systems the fact that you cannot only give more efficient care that is less costly for the same outcome but you can also do it in a way that improves the quality.

For example, a leukemia patient treated at home turns out to have fewer infections than one treated in the hospital because of the nature of the environment.

Representative **Scheuer**. Fewer nosocomial infections?

Dr. **Grossman**. Yes. That's right.

Finally, we have instituted this, a patient's and a patient's family's sense of control over their disease, their ability to live a normal life during the course of a chronic and complex illness, is greatly enhanced.

So that we think information systems represent the fundamental tool that will allow us to bring coordinated care to measure quality in outcomes and some hopes to achieve the goals of a uniform standard of care.

The last point I would like to make is that the arguments about protocols and standards as being dehumanizing and depersonalizing I believe are incorrect. I believe we need to set standards. I believe there are optimal ways to take care of patients. You do need to adapt those optimal ways to the individual needs of individual patients. But ability to move forward and set those standards based on a data base is another important attribute, I think, to come in the future.

Representative **Scheuer**.Very good. Thank you very much.

[The prepared statement of Dr. Grossman follows:]

PREPARED STATEMENT OF JEROME H. GROSSMAN, M.D.

I am honored and delighted to submit this testimony at today's hearing. At New England Medical Center we have devoted significant resources during the past several years to the study of computers in the management of patient care and hospital finances. We believe that new uses of computers, along with new management techniques, are pivotal components of the future of health care in this country.

Information Systems and Health Care: the Current Picture

To fully appreciate where we need to change the management of this nation's health care system, we need to first acknowledge the primitive level of management and financial control that exist today in our industry. The present uses of computers in the clinical and financial management of hospitals are by other industry standards rudimentary. This is in contrast to the fact that scientifically and technologically, our industry is the most sophisticated in the world.

That's not to say that computers don't exist in the health care setting. At almost every level, the health care system uses computers to process financial data, patient case data, and other information, but not at the level of sophistication of other industries. The skills and tools needed for overall management control and financial management of costs are only beginning to emerge. They have existed in other industries for a decado at least. Even the simple kinds of systems which help process large-volume technical work, such as laboratory tests, for example, exist in many institutions but by no means all. In both the managerial and clinical areas, we are still at the stage of disseminating basic information management systems.

Let me illustrate with some examples. The great majority of U.S. hospitals cannot determine the most basic financial and case-mix data such as the true costs and service components of an individual's hospitalization, nor can they look at similar patients and detect patterns and variations in how various physicians treat that kind of condition, and what kinds of procedures they use, and how many resources are expended. Moreover, there are virtually no quality control systems. This is not the way we manage the bulk of our nation's industries.

The Environment in which we Conduct Business is Changing Rapidly

All this is happening -- or, more to the point, not happening -- at a time of unprecedented, rapid and fundamental change in the way health care is being provided and paid for. There are four major shifts that characterize this period of change in the health care industry:

-- The shift from cost to price. Previously, third-party payors reimbursed us for the costs of our services, whatever the service might have been or whatever it cost. Now we are increasingly seeing reimbursement based on diagnostic related groups, regardless of the actual cost of treatment. The hospital whose services come in under the mandated price structure can can keep the difference, but if our services cost us more than the insurers are willing to pay, the difference comes out of our own pockets. We need computer systems that will that will help us determine our true cost per service, or else we have no hope of controlling true costs and structuring our prices effectively.

-- The second shift is directly related to the first; it is a shift from provider to consumer driven, or market driven, health care, and by "consumer" I mean both patients and third-party payors. Many insurers now require patients to obtain a second opinion before they will cover surgical or other procedures. Some limit the patient's choice by only covering services at the least costly hospitals. Still others require additional premiums for more expensive elective procedures such as transplants or other so-called experimental techniques.

Let me add here for the sake of clarity the following point: When we say "market driven," we are not relegating the provision of health care to all the forces of the marketplace. We do not mean to imply that a given service needs to turn a profit. Rather, we are trying to determine whether there is a need for the service. The mission of our voluntary hospital movement in America insures that needs for health care services will be meet. Individual hospitals, however, need to determine if the need for a particular service is being met in a given area. If it is being met, we shouldn't provide it redundantly -- profitable or not. Information systems can help us determine the answers to these critical questions: what service is needed, what service do we provide, and at what cost.

-- The third shift is in focus, from national to regional, and Federal to local: The "New Federalism" movement that in some areas has shifted powers from the Federal to the state level means that the regulatory function of Medicaid and Medicare are now the burden of the state and local governments.

In addition, markets vary from region to region. Medicare has introduced national pricing, but private insurers have not; moreover, private insurers are working in regional markets where a procedure at a fixed price will net hospitals six percent in the south and east, but will cause us in the northeast to lose money because of labor costs and other issues. And we cannot forget that differences in practice patterns contribute to regional variations -- we in the Northeast hospitalize patients more often than others, for instance. We can't rely on national data to help us determine our true costs vs. national pricing structures. We need computers to help us understand our own markets, our own costs, and the strategies we must develop to survive.

-- The fourth shift is characterized by increased competition: hospitals are facing the same kind of pressure as AT&T, the airlines and the commercial banks. The shift from the use of hospitals to the ambulatory setting has created significant excess capacity, as did the increase in the production of physicians in the past five years.

With New Management Information Systems and Innovative Management Approaches, These Changes Can Be Opportunities for Enormous Improvements in Quality and Efficiency

The overarching need, then, in order to manage in this shifting environment, is to understand the services we provide, their true costs, and whether those services are truly needed by their constitutencies. I'm not describing anything particularly innovative in the context of American industry. But in the health care industry, it is extremely innovative. And all we're advocating, quite simply, is that the next round of change in hospital management take us into line with the way private industry manages itself. And in the health care setting, that means building new computer and management systems that are adaptations of standard managerial systems that aggregate clinical and financial information.

The opportunities to improve efficiency and quality are enormous. And though it may sound strange, it all needs to begin by shifting the focus of our attention away from the bedside. Many computer and management gurus have envisioned the hospital of the future with a computer terminal at every patient's bedside, enabling physicians, nurses and other clinicians to input and summon up information about the patient without having to resort of cumbersome manual record-keeping and retrieval.

But we are hospital-focused in our thinking, and in reality the patient's care consists of a series of episodes of illness, only a small minority of which are actually treated in the hospital. We need to shift the focus away from the hospital bed. The hospital bed is one episode, one instance in the patient's illness. Hospitalization today is the lab test of tomorrow. All we really need to know is that a patient had one, and the result. We don't need to know how a patient's pulse performed during every minute of hospitalization. But our current thinking is that this is the kind of information that is important. I believe that that's wrong.

The information we need is the kind of information that will track the patient through every episode of illness, measuring at every point the quality and cost of care being provided. That's only just beginning to happen.

There is a rapid dissemination of standard cost-management systems in health care. Approximately five percent of U.S. hospitals have them, and they're spreading at a rate of between five and ten percent per year. That's not particularly exciting -- these systems are only being used as tools that gather the basic kinds of information. What's exciting is the potential of these tools to improve both efficiency and quality -- and society's ability to afford a health care system without rationing will depend on the innovative use of such systems.

What will be the incentive for hospitals to realize that they need such systems? Unfortunately, a bad fiscal year with large losses is the most likely one. However, others see these systems as an opportunity to improve care. Our efforts to understand how computers and new management systems can help us understand our business has led us at the New England Medical Center to create our own computer software company. Our product, a fully integrated cost accounting, decision support and strategic planning software system for hospital management, is currently being used in 140 hospitals nationwide, in Europe and New Zealand. But I can state with a great degree of confidence that our major barrier to sales is a lack of interest. Our industry has not yet realized the need.

New Information Systems Hold the Potential for Fundamental Change

We need information systems that accurately reflect the episodic, extra-hospital based nature of illness and treatment. The information we currently gather in our hospitals now focuses on DRGs and hospitalization. In reality, we take care of patients over a period of time and in multiple settings. So based on our key information needs as I described them above (i.e., defining the service we need to provide, and knowing the resources required to provide that service over a period of time and their true cost) we can now imagine repackaging our services in a way that far more accurately mirrors the true nature of illness in all its various episodes. The leukemia patient, who requires care in a number of settings, is a good case study -- and a case study we selected at New England Medical Center as one of six pilot studies to better understand what I call "episode of illness" management, or in other words the management of the large case.

Currently, a leukemia patient gets fragmented care -- in the doctor's office, at-home care, hospital care, outpatient clinic care -- and often needs different, uncoordinated providers in order to get this care.

At New England Medical Center we asked a doctor and nurse team how best to take care of a person with leukemia in terms of cost, quality, and the patient's well-being. Tho new model we've developed calls for as few days as possible in the hospital, since the patient and family are so much better off at home. This kind of care is less expensive, there are fewer infections and a patient's ability -- and the family's ability -- to carry on near-normal life is increased dramatically. Here's an example of improvements in quality, lower cost, and a better quality of life for the patient. It's win, win, win, And to a great extent this kind of alternative care will bo made possible by information systems that allow us to have the same information and control of the patient care process outside of the hospital that we once had only by keeping the patient captive to hospital-bed-based information systems.

To the extent that this happens at all currently, the patient and family are left to a large degree on their own to assemble the various components of this non-hospital treatment model. Hospitals must, in the process of developing systems that track patients outside the hospital walls, also create access to the services that take place outside.

With such systems, the doctor and the hospital would follow a patient's record wherever the patient is, enabling the hospital to approach the third-party payor and say "we'll take care of the patient for so-many thousands of dollars, in monthly installments of so much." And the hospital will be able to do so because it will know exactly what services the patient will need in a given episode of illness -- and how much those services will cost. Hospitals won't need to make elaborate financial arrangements with the third-party payor. Nor will they need to yield control of the health care management to the payor, who currently calls the shots because it currently controls pricing. We in effect shift back to the provider -- to us -- the authority and responsibility for the management of care.

Most importantly, new information systems will free clinicians to once again perform their real jobs -- caring for patients. And we can see the point at which we can state the price per service but the results we can guaranteo for that price and the level of quality hospital can guarantee at that price.

Measuring the Quality of Care

In fact, the New England Medical Center is forming an institute, scheduled to open in July of this year, whose central focus will be the development of methods of measuring quality in terms of functional outcomes, medical outcomes, and patient satisfaction. These are not extraordinary measures in most industrial sectors; in the health care industry, however, they are revolutionary. We used to consider the level of quality in American health care as relatively uniform; we know now that quality is uneven at best, and that it suffers when the price of care is continuously driven down.

The need to have a commonly understood measure of quality is critical. Information systems and research are currently producing such measures. The New England Medical Center Institute will bring this work, currently based in think-tanks, into the academic medical center -- the real world, if you will. The development of these tools will thereby be moved from research to demonstration and dissemination.

Conclusion

While we are still at the primitive stages of computer-assisted management of the health care system, the changes in the health care environment are creating opportunities for substantial progress. The future lies in improving quality, efficiency and access to the health care services, and in understanding how the management of information can help hospitals achieve those ends. Our success in preserving and enhancing an affordable health care system without rationing will depend on our resolve. We must devote the same level of energy, creativity and determination to new ways of managing our industry that we have traditionally devoted to the science on which it has thrived.

Representative SCHEUER. Now we will hear from Mr. Quasney.

STATEMENT OF MELROY D. QUASNEY, ASSOCIATE DIRECTOR, INFORMATION MANAGEMENT AND TECHNOLOGY DIVISION, U.S GENERAL ACCOUNTING OFFICE

INFORMATION SYSTEMS IN FEDERAL HOSPITALS

Mr. QUASNEY. Yes, sir, Mr. Chairman, GAO, of course, is pleased to be here to address the subcommittee today.

We can bring light to the issue that you are going over from some extensive work that we have done in the Federal hospital sector in the Veterans' Administration and the Department of Defense.

Both of these organizations are in various stages of developing and installing integrated hospital information systems in all of their facilities.

Representative SCHEUER. That is the Department of Defense and what other organization?

Mr. QUASNEY. The Veterans' Administration.

Representative SCHEUER. VA. Right.

Mr. QUASNEY. Yes.

The Veterans' Administration began the effort in 1983, and they do have parts of their system working in 172 hospitals and 358 other health care facilities. During 1986, the VA, to give you an idea of size, handled 1 million inpatient hospitalizations, 18 million outpatient visits, and conducted 183 million laboratory results.

At the conclusion of the design, development, and deployment effort, they expect that it will cost about $925 million to automate their facilities.

They are doing it in an incremental fashion. There are currently pieces working, and pieces being designed, tested and deployed throughout the entire environment.

I should note that they are using computer professionals in designing and implementing the systems, but there is a very heavy involvement by doctors, nurses, pharmacists, lab technicians, and other aspects of the hospital administration staff.

The Department of Defense is also in the process of automating its facilities. It has 167 hospitals and 600 clinics worldwide. In 1986 it serviced 1 million inpatient hospitalizations and 48 million outpatient visits. So, both these facilities represent a very large patient activity.

Defense estimates it will cost somewhere between $800 million and $1.1 billion to automate its facilities. In February 1988 it did choose one vendor and will be proceeding with installing this prototype in 10 hospitals to perform extensive testing before they make a permanent deployment decision to go to all facilities.

I should point out that the VA and Department of Defense have spent a tremendous amount of time, money, and effort in defining their computer systems, and the comprehensiveness of their functionality. They have both tested commercially available products and found that these were not products that they could use to satisfy the comprehensiveness of their needs.

We have interviewed both VA users and Department of Defense users in the hospitals and obtained a lot of information. They tell us that they feel that it improves patient care. They feel that it is a lot more productive in that you do not lose results, there are fewer errors recorded, and it certainly reduces the amount of paper that someone has to deal with in day-to-day life.

So, there is a lot of information that indicates they feel that the system is going to be beneficial to.

The other thing about the systems is that they are attempting to produce an integrated system in that it is going to sit over top of the hospital environment, both in an attempt to administer the process and capture the appropriate management and cost information, and at the same time, capture and provide information to the health care provider in order to provide better and more timely service.

Both the systems are also being designed, and I think it is a point that was brought out here in the hearing, to produce alerts. In other words, when the computer system detects potential drug interaction or abnormal lab results, it produces an alert to someone that says, "We found this information," and then someone would have to make a decision about it. It does not make decisions on its own part at this time.

When both of these systems are completed, it will represent 350 hospitals and over 600 clinics that will have state-of-the-art computer systems and software.

At this time we see no technical barriers in them accomplishing their mission. Of course, there are other circumstances that come into play, but we do not see any technical barriers. By that I mean computer-science related.

We also conducted a comprehensive literature search of the private marketplace for commercial hospital systems. We also looked at several of these systems in hospitals through the vendor community, asking to look at their best-case examples that they had installed, and we interviewed these hospitals.

BARRIERS TO COMMERCIAL INFORMATION SYSTEMS

We identified several factors that could have affected the development or lack of development of comprehensive commercial hospital information systems. First of all, it is a relatively small marketplace. For an organization to make an investment in defining, developing, and testing a very large, complicated computer system, it would have to have a considerable base in order to disseminate and obtain a return on its investment.

We also found that there are low levels of automation, of spending for automation by hospital facilities. However, we want to note that with medicare's prospective payment system, which was introduced in October 1983 and phased in over 4 years, there certainly is a more cost-conscious activity going on in the hospitals today.

We found that savings were currently limited to reducing clerical work of medical professionals. There is also difficulty in achieving and quantifying savings. I mean, can you get the information to say that, "Yes, I made a good business decision and I did get a good return for my investment."

Another factor that we think has hindered the development of some of these systems is that although we could find a lot of studies that talked about system costs, they could only define prospective benefits, benefits that they felt could be achieved and be returned. We could find no studies that definitely provided a measured actual cost in savings that would facilitate other facilities in looking at this and making a business decision that, yes, it's a good thing to do.

The VA has also conducted many cost-benefit analyses, but again we're talking about prospective benefits, benefits they feel they can achieve.

Congress has also directed the Department of Defense during its operational test of its 10 facilities to collect all the appropriate information that it can to determine actual deployment costs and potential actual benefits to be returned. Again, it's going to be prospective benefits, not actual.

THE FUTURE OF INFORMATION SYSTEMS

However, in a few years, these organizations will have systems that are operating in facilities where information can be captured and analyzed, again using automation to be able to see if there is in fact benefit to be derived from the systems from a business perspective as well as from a patient care perspective.

With the $2 billion investment, the VA and Defense Department anticipate obtaining a degree of comprehensiveness beyond that currently offered in the commercial marketplace to the Nation's 5,700 community hospitals. In other words, they are going to have a system that will be beyond the capability that is currently available in the marketplace.

We think that one of the impediments to the small hospitals is that they really do not have a lot of money to spend individually and, therefore, it is not creating the appropriate incentive in the marketplace to develop these systems and allow them to disseminate.

However, in the case of the Federal Government, because it does have so many facilities within the VA and the Department of Defense, it can spend a large amount of money developing computer systems and can capitalize that return very quickly because it is deployed to multiple facilities.

Although our work has not addressed automation in hospitals in the future in detail, from our work we have some issues that you may want to consider, and in hearing some of the testimony today, I think it is appropriate.

The questions would be:

What should be the Government role, if any, in transferring the Federal investment in integrated hospital information systems to the community hospitals?

What are the potential benefits from using fully automated medical records to greatly reduce the amount of paper handling, because paper handling is still there when you have automation?

What are the potential benefits from incorporating expert or decision support systems to improve medical diagnosis and treatments?

Last, what are the potential benefits from providing an improved and larger automated data base for research to more rapidly and uniformly introduce refinements and improvements in medical practice?

We recognize these questions are complex and with each question there is a host of issues—technical, legal, medical, and managerial—to be considered in addressing each one of these. We recognize that analyzing these and other issues is a tremendously difficult task, and we applaud the subcommittee for taking the first crucial step at the beginning of exploring these issues.

This concludes the statement. I will be glad to answer any questions that you may have.

[The prepared statement of Mr. Quasney follows:]

PREPARED STATEMENT OF MELROY D. QUASNEY
USE OF INFORMATION TECHNOLOGY IN HOSPITALS

Mr. Chairman and Members of the Subcommittee:

GAO is pleased to be able to participate in these hearings on the future of health care in America. Recognizing the primary purpose of today's hearings--to explore the current and future role of automation in hospitals--I would like to share the results of our efforts in examining information systems in federal and non-federal hospitals. We have also identified some areas the Subcommittee may wish to explore as it continues its deliberations on this topic.

As you are well aware, the cost of medical care as a percentage of the nation's gross national product doubled from 1960 to 1985 to nearly 11 percent and continues to climb. The application of computer technology offers the potential to improve medical care while helping contain its costs. The Veterans Administration (VA) and Department of Defense have major efforts underway to define, develop, and deploy integrated hospital information systems--one aspect of computer technology. These efforts are on the forefront of the development of a new generation of hospital information systems--systems that possess a comprehensiveness that has not existed before.

My testimony describes the VA and Defense efforts and the significance of these efforts to the use of information technology in health care and hospital management. In addition, I will provide information from our limited survey of hospital information systems in non-federal hospitals. We did this survey to identify the scope of hospital information systems in the private sector to serve as a point of comparison for our examination of the VA and Defense efforts.

Integrated Hospital Information Systems

An integrated hospital information system is a computer system that receives information from hospital departments, processes it, and maintains medical and financial records about each patient. For example, through an integrated information system, a physician may enter orders for laboratory tests for a patient. The system may then schedule the test, directly receive the results from laboratory test equipment, forward the results to the nursing unit, and allow the physician to review the results in his office as soon as the test is complete. This information is then stored in the system for future analysis along with other test results.

VA and Defense Integrated Hospital Information Systems

VA began installing its computer system, the Decentralized Hospital Computer System, to support 172 hospitals and 358 other health care facilities in 1983. During 1986, these facilities served over 1 million inpatient hospitalizations and 18 million outpatient visits, and conducted 183 million laboratory procedures. VA estimates that its system will cost $925 million as currently defined. Its approach has been to use its own medical professionals to define its needs and its own computer professionals to develop its system. VA has installed an initial increment of software and plans to install additional and enhanced software modules and hardware incrementally.

The Department of Defense is also acquiring its own system, the Composite Health Care System, for installation in its approximately 167 hospitals and nearly 600 clinics worldwide. During 1986, these facilities served nearly 1 million inpatient hospitalizations and 48 million outpatient visits. Defense estimates that this program will cost between $800 million and $1.1 billion. It identified its detailed information needs itself and then evaluated prototypes from three vendors before selecting one vendor in February 1988. This vendor will complete development of the system and install it in 10 hospitals for an extended operational test and evaluation prior to Defense making a deployment decision late next year.

VA and Defense efforts to identify their information needs have been extensive. Both agencies tested and evaluated commercial products to assess whether the commercial products could satisfy their information needs. They concluded that individually developed systems were needed because off-the-shelf commercial systems did not provide the comprehensive functionality desired. We have found that the systems being developed by VA and Defense support a more comprehensive set of functions than those we examined during our survey of non-federal hospital information systems.

These federal efforts represent a large national investment in medical information systems. When completed, nearly 350 hospitals and more than 600 clinics will be fitted with state-of-the-art computers and software, forming the largest group of facilities operating systems to support medical care and the management of medical operations. Links between the VA and Defense systems are being designed as VA hospitals need to be able to handle military casualties in wartime.

Parts of the VA and Defense systems have been installed and are currently in use. As part of our examination of these two systems, we talked to a number of users. Their comments were generally favorable.

Users of VA's system told us that the system allowed staff on the hospital wards to access a patient's laboratory test results as soon as the technician entered them into the data base. This reduced the number of phone calls for laboratory results and decreased the number of duplicate tests or lost results. Physicians told us that the ready access to laboratory results led to more timely diagnoses and better patient care. The pharmacy staff said that improved access to patients' current medication profiles allowed patients to receive their outpatient prescriptions quickly.

Users of the Defense system at its current test hospital have also identified benefits from the system. For example, physicians believe that the overall quality of care has been improved because they can review displays and graph the history of a patient's laboratory results or medication records--that they have personally ordered--instantaneously, rather than sorting through stacks of forms. Pharmacists said the system has made the distribution of outpatient prescriptions more efficient because a clinic doctor can order a prescription while the patient is in the office. The system will print a label and enter the prescription in the patient's computerized record and in a pharmacy report. By the time the patient arrives at the pharmacy, the prescription has been filled.

Further, both the VA and Defense systems are being designed to have automatic alerts to determine drug interaction and abnormal lab results, and to supply information for peer review processes.

While both system development efforts are 2 years away from completion, at this time we see no insurmountable technical barriers to prevent the successful completion and implementation of these systems.

Commercial Integrated Hospital Information Systems

We also conducted a comprehensive literature search on the commercial hospital information system industry and a limited study of successful implementations of commercial systems to aid us in evaluating the scope of VA and Defense efforts. We contacted the seven largest vendors--those which reportedly controlled 65 percent of 1984 sales--to examine their most comprehensive systems. We also examined these systems at seven hospitals the vendors selected as their most successful, comprehensive installations. We found these systems were not developed to provide the degree of comprehensiveness planned for the VA and Defense systems.

We identified several factors cited in literature that may have affected the development of commercial hospital information systems.

-- A small market for these systems. Some experts believe that hospitals need to have 200 or more operating beds to make optimal use of integrated hospital information systems. Of the 5,700 community hospitals, nearly 4,000, or 70 percent, have less than 200 operating beds.

-- Low levels of spending for automation in the hospital industry. Several surveys reported that hospitals generally invest only 1 to 1 1/2 percent of gross revenues on automation.

-- Historical lack of incentive to minimize costs. The historical lack of price competition or other strong incentive to reduce or contain costs may explain why hospitals have such low levels of investment in automation. (Medicare's Prospective Payment System, introduced in October 1983 and phased in over 4 years, has raised the cost-consciousness of hospitals.) In addition, it may be difficult for many hospitals to raise funds for information systems that have high initial costs.

-- Savings currently limited to reducing clerical work. Savings from these systems are most likely to accrue from reductions in the time required for medical personnel to perform clerical tasks. Medical professionals spend up to 25 percent of their time performing clerical tasks of which only a fraction can be saved through automation.

-- Difficulty of achieving and quantifying savings. Time savings are fragmented and must be combined or consolidated to reduce the number of personnel or the hours worked. In practice, this is difficult to do and requires a concerted effort that few hospitals are able to sustain.

During our survey of commercial hospital information systems, we asked hospitals to rate the importance of factors in their selection of a system. The hospitals considered comprehensiveness and integration as the most important factor. They also considered reliability, flexibility, strength of the vendor, cost, and implementation support to be important factors.

Benefits of Systems

One factor that may have impeded the commercial development of integrated hospital information systems is the limited evidence to indicate the billions of dollars that hospitals have invested in integrated systems actually result in cost savings. While there are a number of studies that address system costs and prospective benefits, we are not aware of comparable studies that address actual measured costs and benefits.

VA has conducted several cost/benefit analyses to justify its procurement of additional hardware to support its evolving information system. These studies identified prospective benefits--those that VA believes its system can achieve. Congressional direction requires Defense to also estimate the benefits and costs of each phase of its incremental implementation, and to report its findings prior to making a deployment decision scheduled to be made in late 1990. Defense plans to analyze tangible and intangible benefits during the operational test and evaluation phase, which is scheduled to be completed late next year. Over time, when the systems are fully developed, these efforts by VA and Defense to quantify the benefits from their systems should provide information on actual benefits achieved.

In addition to quantifiable benefits, there are many qualitative improvements possible through the use of integrated hospital information systems. These include improvements in patient relations, better information for physicians, improved timeliness of information, reduced opportunity for error, and improved management information.

The projected federal investment of $2 billion in integrated hospital information systems is significant. For this investment, VA and Defense anticipate obtaining a degree of comprehensiveness beyond that currently offered in the commercial marketplace to the nation's 5,700 community hospitals.

Our limited work suggests that a number of commercial firms are capable of developing hospital information systems and that hospitals consider comprehensiveness to be an important factor in choosing a system. However, our work also suggests that the small size of most hospitals and the cost of automation may be impediments to the development of commercial hospital information systems. As I mentioned earlier, the federal effort in just defining and developing the comprehensive VA and Defense systems has been significant--requiring an investment that individual community hospitals may not be able to afford. The federal investment has been justified largely by the large number of medical facilities in which these systems will be installed.

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Thus far, I have provided information on the current condition, as we know it, of hospital automation as it relates to health care and the management of operations--thus addressing one purpose of today's hearings. Our work to date has not addressed the role of automation in hospitals in the future--the other purpose of today's hearing. From our work, however, we have identified some areas the Subcommittee may wish to explore as it gathers information on health care in the future:

-- What should be the government role, if any, in transferring the federal investment in integrated hospital information systems to community hospitals?

-- What are the potential benefits from using fully automated medical records to greatly reduce the costs of handling paper records?

-- What are the potential benefits from incorporating expert or decision support systems to improve medical diagnoses and treatments?

-- What are the potential benefits from providing an improved, larger, automated data base for research to more rapidly and uniformly introduce refinements and improvements to medical practice?

We recognize these questions are complex and with each question there are a host of issues--technical, legal, medical, and managerial--to be considered in addressing them. We recognize that analyzing these and other issues is a tremendously difficult task and we applaud the Subcommittee for taking the crucial first step of beginning this important dialogue.

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This concludes my prepared statement. I will be glad to answer any questions that you may have at this time.

Representative **Scheuer**. Well, very good. Thank you very, very much.

COSTS AND BENEFITS OF U.S. PLURALISM

Let me ask both of you this. We heard the first day that we are spending about 50 percent more than the OECD countries as a percentage of GNP on health. We spend about 11.5 percent, close to 12 percent. They spend an average of 8 percent.

Dr. **Grossman**. It varies all over the place.

Representative **Scheuer**. Pardon.

Dr. **Grossman**. I mean, Sweden spends 14 percent.

Representative **Scheuer**. Sweden spends 14 percent? That comes as news to me; 14 percent of her GNP?

Dr. **Grossman**. I may be wrong. I think it varies.

Representative **Scheuer**. That is not my understanding. I understand that in Sweden they have 1.2 or 1.3 people per hospital bed employed in their hospitals, and we have 4.6 or something like that.

Dr. **Grossman**. They also have a longer length of stay. Interestingly enough, we, the New England Medical Center, have an information system we have developed which runs at Uppsala Hospital in Sweden, and the same one runs in New England Medical Center and a hundred other hospitals. So, we are beginning to collect a comparative data base around the world.

Representative **Scheuer**. Well, the OECD special data bank has Sweden in there as spending 9.4 percent of GNP in 1985—that is the last year we have the figures for—at a time when we were spending 10.7 percent.

Let me just ask you to take us to the mountaintop. What is responsible for any excess costs that you think are in our health care delivery system? Name a few of the culprits that you think are responsible.

Dr. **Grossman**. An uncoordinated, fragmented system in its entirety. That is the overwhelming reason.

Representative **Scheuer**. That is the overwhelming reason.

Dr. **Grossman**. Second, we pay for pieces and we ask everybody to do more piecework in order to get paid more.

Physicians have been gaming the system for 50 years, you know. It's a pretty smart game. Hospitals have been gaming the system. And when you pay for the intermediate products of production independent of some organized unit of service, you inevitably cause more units to be used. We are a very responsive society.

So we are using excessive amounts of almost everything in some places and underusing all other things. Since we have no agreed-upon standards, there is, I suspect, an equal mix of both.

Representative **Scheuer**. Now, we were told that it is costing us $100 billion to $125 billion to $150 billion a year to have this pluralistic, variegated health care system.

Does the question of pluralism and heterogeneity and variety add something to the system? Does it make it a healthier system, a more robust system? What are we getting for that heterogeneity? I mean, what does it really mean to us? Is it all a negative cost, as you are sort of suggesting? Or are there any advantages from that pluralism and heterogeneity?

Dr. GROSSMAN. Let me perhaps correct the impression I gave. While the system is fragmented and chaotic in how it gets paid for, that doesn't mean one system is the right answer.

I think we don't have any idea about what the right answer is, and the models that might be grown from a heterogeneous system are to me the critical issue in moving toward better answers.

My strong belief is, as you may know we in Massachusetts have just instituted the first universal entitlement bill, other than Hawaii.

Representative SCHEUER. Indeed you have. Your Governor should be congratulated for his initiative.

Dr. GROSSMAN. And I will be happy to carry that message on your behalf to him.

Representative SCHEUER. Please do.

Dr. GROSSMAN. But most importantly to me——

Representative SCHEUER. He is a Swarthmore man. What else would he do?

Dr. GROSSMAN. Yes, and my daughter will go there in the fall.

Representative SCHEUER. Great. [Laughter.]

Dr. GROSSMAN. Right. So we can all have that conversation after lunch.

But what we have decided to do in Massachusetts which I think is important is that the State government is the payer and insurer of last resort. We are going to try by giving everyone the equivalent of a voucher, to truly allow people choice in selecting their insurer and their plan. And I believe that as everything happens in this country, the money will follow the patients who make informed choices.

You made a comment about knowledge, and I believe patients are quite knowledgeable and can be made knowledgeable about the choice among systems. They can look at data which suggest higher quality outcomes versus lower quality outcomes.

They look for service in which they have access in how they are treated. And I believe the choices of services and the freedom to move among them will be critical to our advancing both the quality and efficiency of medicine in this country and perhaps in the developed world.

Representative SCHEUER. What are some of the positive elements that we get from this heterogeneity and diversity and what is the basic deadweight cost? What are the basic deadweight costs that seemingly have no offsetting advantages?

Dr. GROSSMAN. I don't know—to answer your second question—I don't know that there are any deadweight costs that a single system would not have that a multiple system might have, because you could—and I would argue——

Representative SCHEUER. You mean that a single system would have?

Dr. GROSSMAN. Yes. The single system, if it were badly organized, would have all the deadweight of a multiple system.

Representative SCHEUER. Yes. Well, I don't think anybody is suggesting a single system. But is there some rationalization of the current system that we have, with this variety of——

FUTURE DIRECTIONS OF HEALTH CARE

Dr. GROSSMAN. Yes. One of the things I was writing as we talked is that we are in the midst of cultural shift now away from the individual provision of health services. I as a physician am licensed to be the provider of care. You license me. My institution is licensed to do tasks. But nobody is given the authority or responsibility institutionally to deliver comprehensive care.

The shift from individual to the corporatization of medicine I believe is inevitable, appropriate. HMO's and other systems are struggling toward some rationalization of an appropriate number of systems.

If you look at the Federal RMP's of the late 1960's, you——

Representative SCHEUER. The Federal what?

Dr. GROSSMAN. The regional medical programs.

Representative SCHEUER. Yes.

Dr. GROSSMAN. They suggested that we would organize care around groups of 2 million, 1 to 2 million people in geographic regions. To some degree, HMO's are beginning to do that. In New England, we now have a dozen, each potentially able to take care of that number. And you could imagine the choices emerging: it would be those institutions or corporations, be they not for profit—or for profit—or cooperatives or whatever you want, who would be responsible for access, delivery, efficiency, and outcomes.

It is my sense of that these are the directions that we are moving quite steadily toward, and we need to encourage, support, and tolerate the faults of those efforts.

I am basically optimistic about the directions we are taking. The information systems we are developing are predicated upon the presence of such organizational changes.

CURRENT STATUS OF MANAGEMENT SYSTEMS

Representative SCHEUER. Well, now, information systems, the availability of intelligently organized information and focused information should enhance this process, should it not?

Dr. GROSSMAN. No question. Interestingly enough, on the testimony given about the Federal system, I have to comment that I think that the private sector has all the things that you are installing in the public sector now. Companies have been formed by the dozens and dozens and dozens.

I formed one 20 years ago, of which pieces are in the Federal system. I formed another 2 years ago. The amount of venture capital in support for the introduction of computer systems for the management of health care exceeds the products available to develop.

So that I would argue that what you are talking about here in the Federal system are transactional systems.

We have been working in the last 3 or 4 years on management systems which sit on top of already existing transactional systems, lab systems, ADT, bed scheduling, and all of those things, financial kinds of data.

We have been able, at New England Medical Center, to achieve probably, we think, about 20 percent savings by the introduction of patient-centered cost accounting management control systems in which we give doctors and nurses added information as well as skill training to manage resources as well as quality of care. And they are really quite terrific at it.

Representative SCHEUER. Well, that is a phenomenal figure, that 20 percent.

Dr. GROSSMAN. And I think there is another 30 percent to go. I think we are just getting started.

I just yesterday looked at New England Medical Center's delay days. That is, days in the middle of the hospitalization not used productively. We have developed a tool which says a patient is needing an action but it takes us time to get that action to the patient. We think that maybe as many as 25,000 of our 150,000 days in one of our hospitals could be saved by changes in those systems.

Representative SCHEUER. How do you get the patient access to a happening?

Dr. GROSSMAN. Right.

Now, we say CAT scanning is expensive. You have heard all this discussion about too much CAT scanning, unnecessary CAT scanning. Our clinicians—and we have been looking at this and it makes them pretty nervous—it is clear now that doing a CAT scan on a certain group of patients before you even talk to them is the most efficient way to a diagnosis.

Representative SCHEUER. What kind of patients would they be?

Dr. GROSSMAN. They are patients with uncertain pain and other kinds of things. You take a CAT scan, look at it, then the questions you ask, the tests you follow, how long it takes are enormously reduced. Whereas now, we say a CAT scan is expensive, so we do this test and this test and that question, and this, and it adds up. When we now do episode of illness costing, what we will tell you is that it turns out it costs $1,400 in preparation for doing the $600 CAT scan.

There are whole process issues, once you begin to shift your focus to an episode of illness, when it is appropriate to do something. Depending on the outcomes you can achieve, you can bring a whole, completely different way of thinking about quality care than we have in the past.

I would only comment that as one institution we are pretty well into it now, we are about 5 years into the process, and I am very optimistic about its outcome.

Representative SCHEUER. You know, talking about CAT scanners, we use them about 4 or 5 or 6 hours a day. When you have a piece of equipment worth a million dollars, why wouldn't it make sense to use that 20 hours a day?

Dr. GROSSMAN. We use it 24 hours a day, 7 days a week.

Representative SCHEUER. You do?

Dr. GROSSMAN. We do.

Representative SCHEUER. You know, I have been asking that question for years, and this is the first time I have heard that it is being done.

Dr. GROSSMAN. Well, here again is the scope and size of the system that uses it. You see, the way CAT scans—for example, in Massachusetts a doctor can put one in his office, but I have to go through a 2-year regulatory process to get it approved—until about a month ago.

So, doctors put them in their offices, and there are fees for it. The system allowed them by the economic reward system, again, we're selling carburetors and spark plugs rather than whole episodes of care.

Now, we are moving away from that. Large-case management, HMO's, DRG's are first start. So, we have to recognize that this effort is like turning the *Queen Elizabeth.* In these last 3 or 4 years, we have begun to move this huge enterprise that has been so structured as it has been for the last 50 years. I think we should look at the good side of this and pick up on the pluses that are going on and encourage and support them rather than, I think, beating on what I think are some of the failures of the past, paid by us all.

Representative **Scheuer**. You said the present uses of computers in the clinical and financial management of hospitals is by the standards of other industries really rudimentary, primitive.

Dr. **Grossman**. Yes.

Representative **Scheuer**. Why should that be?

Dr. **Grossman**. I believe Mr. Quasney alluded to this. Remember, we were cost reimbursed in the past and——

Representative **Scheuer**. We were what?

Dr. **Grossman**. Cost reimbursed.

Representative **Scheuer**. Yes.

Dr. **Grossman**. As I like to describe it, if you got the right number on the right line, they sent you the money.

Representative **Scheuer**. Right.

Dr. **Grossman**. Yes. And they implied even that they were costs, where it was really how to use the tax system.

So, for every year between 1940 to 1983 it was basically the more you spent, the more revenue you got. So that it wasn't an issue of efficiency, you didn't get paid for efficiency. And remember, starting in 1970 we had the determination of need to limit capital expenditures. Computers were capital expenditures, people were not.

So, there was no—there was negative incentive to ever use any of these cost-saving technologies.

Representative **Scheuer**. How will the new prospective-payment system cut back on all of that?

Dr. **Grossman**. Oh, it has already done that. Suddenly we get paid a fixed price and now we've gone to national pricing. Therefore, any savings we realize now stay with us. Whereas, before, you saved a person and it just meant you got less money. We've made the fundamental shift; HMO pricing, excess capacity, and DRG's have shifted the culture.

But we cannot expect this giant industry to get it all right immediately. Think about any other industry's responsiveness.

And remember, we are not making widgets here. The concern for not hurting patients, for not having it go wrong, keeps us from creating a system that does lab tests and saying, "Ah, it works 3 hours a day. That's OK, next week it'll work 6 hours a day," when we have, you know, 2,000 patients coming to the center every day and 100 of them in an intensive-care unit.

So, while running the place at 80 miles an hour, we are trying to introduce this kind of change. And so from those standards, I think the industry is doing terrifically.

Representative **SCHEUER**. Now, why hasn't that been proliferated?

Dr. **GROSSMAN**. Could I suggest maybe that that is not a universal point of view?

Representative **SCHEUER**. All right. Elaborate on that.

Dr. **GROSSMAN**. I was doing computer-assisted diagnosis in 1966. I was a young squirt working on those kinds of things.

Representative **SCHEUER**. This was after your medical school?

Dr. **GROSSMAN**. Yes. I went to MIT before I went to medical school, so I have all the worst training. I came out of medical school and said, "This whole thing is dumb." Computers had come along, and I started working in computers in medicine in 1966 because I had memorized everything in medical school and found it really dumb.

What I discovered was that the difference between common and rare is that common happens all the time and rare happens rarely.

Representative **SCHEUER**. I didn't get that.

Dr. **GROSSMAN**. The difference between common and rare is common happens all the time, rare happens infrequently.

Representative **SCHEUER**. Yes.

Dr. **GROSSMAN**. Well, it turns out that most people, I am sad to report to you, have common disease. Diagnosis is not the problem. The problem is listening, hearing the patient coming at the right time, and then doing the right thing.

What mostly happens and happens correctly is that a patient who is a complicated patient is referred by the physician to someone who knows the care of that complicated patient.

So, I have worked in computer-aided diagnosis on and off, and turned to believing rather that we needed to provide the information, the data base, and the access to physicians and nurses, and patients' access to those people, as the much more important issue.

Why it's not used, I believe, is because there is no good evidence, and I believe all of us would say that diagnosis is not the dilemma facing us in the delivery of care.

Representative **SCHEUER**. Well, there is no one single dilemma.

Dr. **GROSSMAN**. Right.

Representative **SCHEUER**. There are a whole lot of pieces, and I suppose we are going to have to be moving a lot of little pieces.

Dr. **GROSSMAN**. That's right.

We would say that "expert" systems are in place. When we now send back lab tests, the first "expert" system is putting it on a grid, as we now give you the last 8 days' results, so you look across, your eye begins to do pattern recognition, and we put little asterisks next to abnormal. Then we graph and then we tell you about other things.

So, you keep adding factual information from libraries to the ongoing operation of the clinical care setting, and it is my argument that these clinical management systems we are installing as an operational part of everyday life are the right place to add knowledge and add value in the care of patients.

Representative **SCHEUER**. You mentioned lab tests.

Dr. **GROSSMAN**. Yes.

Representative **SCHEUER**. Which most everywhere are automated.

Dr. **GROSSMAN**. Yes.

Representative **Scheuer**. They're computerized.

Why do we hear this constant proliferation, this constant flow of horror stories on lab tests that went awry? Is it the technology that's bad, is it the people who aren't interpreting the technology?

You hear of women who had a pap test and 3 months later they came down with advanced cancer of the cervix. How can those things happen? Is it computers, or is it human beings?

Dr. **Grossman**. Human beings, because the pap smear is still read by human beings. The pap smear is a pattern recognition that we haven't automated yet.

I would argue, Congressman Scheuer, that the whole issue of lab tests is an interesting one. Again, it turns out that the cost accounting system formed in the 1950's is the reason lab technology has developed as it has—onto huge machines—because we said we will put all the costs of laboratory in one cost center, and machines grew because the way you put costs in a cost center was by putting all the people there.

If you look at now—at least after I finished my training, when we trained, you took a blood sample or a urine sample when a patient showed a symptom. You walked down the hall—I used to have blue fingers from the gram stain—and I took the specimen, I did the test myself, came back and said that gave me the information I need for the action.

Well, I was able to correlate the finding with the patient and make that judgment. We have moved all this stuff totally outside of the clinician's realm. With new technology, we are now putting it back. We are taking apart the big machines, putting back small machines, putting it back into the doctor's office, creating patient-care teams around illnesses so that there is a real match in timeliness, in responsibility, and in the knowledge: I know when I see a patient now 25 years later who is sick and who isn't. And if I can keep correlating with my nurse the tests, the data, I am much more likely to get it right.

I feel this great impersonal distribution has been detrimental to the coordinated and quality care we measure. You did a million tests, we pay you for a million tests, there is some company that is making money because they get it done for 3 cents rather than 3.4 cents.

Representative **Scheuer**. Do you think that the technology is sufficiently advanced and sophisticated and reliable for lab testing and sufficiently appropriate to an individual practitioner's office that society should look benignly on that process of doctors increasing doing lab tests, it's not a process that you just start because it's fee driven but that it makes sense to have the testing done at the time the patient is there so that the doctor and the patient can talk about the results of the lab tests?

Dr. **Grossman**. Yes.

Representative **Scheuer**. Now, I don't want to put words in your mouth. Is that more or less the way you——

INCENTIVES IN CURRENT PAYMENT SYSTEM

Dr. **Grossman**. Yes, but I want to limit it because one of the things that has driven this whole system crazy is that I as a primary care physician have to do lab tests, x rays, and EKG's in my office and charge for them to be paid more than $11 an hour for seeing a patient.

You need to really grasp the reality of being a primary care doctor practicing in an office in Massachusetts. You are paid, you are paid $9 and $18 and $4 for the tests, but an office visit is $11, take away the cost of your nurse, your rent, and other things, and you are left talking to a patient for 20 minutes for $5 or $10.

Representative SCHEUER. Well, there is something wrong with that reimbursement system.

Dr. GROSSMAN. You bet your bippy. [Laughter.]

Representative SCHEUER. And one of the things that we have to do for GP's and family doctors is to compensate them for individual time they spend with patients, to talk to them, to inform them, to exchange information with them. That is probably the most important thing a family practitioner can do, and we don't compensate them for that.

Dr. GROSSMAN. You have it. And I will tell you, if you paid these people a reasonable fee, they would only do tests when it made sense. The payment system has driven every wrong incentive that you could imagine.

Representative SCHEUER. In other words, you're saying two things—I am going to add the second thing that you're saying—the tests are fee driven and fear of malpractice suit driven?

Dr. GROSSMAN. Yes. But I am not sure that the latter didn't follow the former. When you could do all those tests and get paid for them, then people said you should have done them.

The shift here that we are making now—again, this comes back to paying for pieces—is to micropricing and micropayment—and it all just goes down the tube.

Representative SCHEUER. All right. We have to be out of here, out of fear of capital punishment, by 1 o'clock, and it is now 1 o'clock.

Dr. GROSSMAN. OK.

Representative SCHEUER. It has been a marvelous panel. You are both very thoughtful, very, very provocative, very creative. We thank you very much. It has been a splendid panel.

Mr. QUASNEY. Thank you, Mr. Chairman.

Dr. GROSSMAN. Thank you.

Representative SCHEUER. We are adjourned.

[Whereupon, at 1 p.m., the subcommittee adjourned, subject to the call of the Chair.]

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